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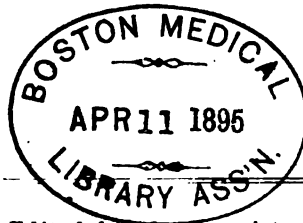
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A CLINICAL LECTURE.

Delivered at the Central Sick Asylum, October 20th, 1892,
in connection with the London Post-Graduate Course.

By Mr. THOMAS BRYANT,
President of the Royal College of Surgeons.

GENTLEMEN,—My lecture to-day will be a clinical demonstration of three very instructive cases.

Case 1.—An infant aged two months was admitted here (August 15th, 1892) with a large swelling, apparently occupying the whole of the left thigh. It was born naturally, and remained well for three weeks, when, without any assignable cause the left thigh began to swell, and with this swelling there was considerable local pain and general febrile disturbance. The swelling rapidly increased, and the child's general condition began to suffer. It was consequently brought here. Now, let us consider what we should have thought of the case had we been confronted with it at that time. With such a swelling, which had formed rapidly, and was accompanied with febrile disturbance, we should at once have assumed the case to be of an inflammatory origin, and the swelling existing in the thigh would have pointed to its seat. But of what tissue? would have been the question before us. That it was not of the skin was palpable, for this tissue looked normal, if stretched, although probably the veins were full; and the skin would have been hot.

That the inflammation was not of the muscles seemed equally sure, for such an affection in an acute form is rarely met with. Was it therefore an inflammation of the deep connective tissue of the part, or of the periosteum or bone?

When I was a young student 40 years ago, my teachers would have called the case one of phlegmonous inflammation of the deep connective tissue of the limb of an erysipelatous character, and would have so treated it; that is to say, they would have locally applied poultices, and given opium to soothe pain. When the abscess pointed, they would have opened it and evacuated the pus; and when, by the lapse of time, bone was evidently exposed, the surgeon of that day would have explained the fact by regarding this condition as due to extension of the inflammation to the bone. He would not have thought of the bone being the primary seat.

We now know that such an aspect of the case is wrong, and that the inflammation must have originated in the periosteum or bone itself; and that the case must be described as one of acute Periostitis or Ostitis (this latter term being preferable to that

of Osteo-myelitis, which is so commonly employed), ending in Necrosis.

Let us now recur to the condition of the child on admission, five weeks after the disease had commenced. We are told that two weeks before admission, or, as I prefer to put it with a view of impressing you, *three weeks after the commencement of the disease*, an opening had been made and pus evacuated. Let me call your attention again to this statement, *not until three weeks after the commencement of the disease* was the limb incised.

On admission "the left thigh was greatly enlarged, and hard to the touch. Through a sinus which opened on the front of the thigh a probe passed two and a half inches upwards and backwards. The skin was normal in appearance. The patient was anæsthetised, and free incisions were made. The little finger passed through a cloaca in a large shell of bone, but no loose bone was felt."

Note here that the cloaca was through a shell of bone, which had been formed in five weeks. With such extra facts as these just related, the true nature of the case becomes clear; and it must be described as one of acute inflammation of the bone, in which the bone died, whilst the periosteum, which was but slightly involved, rapidly formed a shell of new bone. But it may be asked, Why did the bone die? Why did it die so rapidly? The ordinary answer to the first question would be that the blood vessels became so compressed by the inflammatory products poured out that they could no longer convey the blood to the bone, and so it perished from starvation. Is this true? Is the pathology of bone inflammation different from that of other tissues? I think not. We know that in death of a lobule of a lung, or death of skin from inflammation, the parts die from thrombosis of their capillaries and blood stasis. Doubtless this is also the case in death of bone. This further explains why death of bone is a rapid process. But to return again to the case before us: it is to be observed that there is free movement at the knee and hip joints, showing that the epiphyseal ends of the bone are unaffected, and that the disease is limited to the shaft. We can now therefore complete our diagnosis, and say that the case is one of acute ostitis of the shaft of the left femur followed by death of the bone.

The treatment of the case will now claim attention; but before we consider it allow me to impress upon you the great importance of your making in all cases a diagnosis before treatment is commenced. In the early stages of many diseases, before the

symptoms have developed, this may be difficult ; but nevertheless it is all-important that one should attempt to make, at any rate, a *working diagnosis*. It is true this working diagnosis may be only provisional, for if a new fact appears it may have to be altered, and with the alteration of diagnosis the treatment may require modification. Nevertheless a diagnosis of some kind must be made to enable you to treat your case in a scientific way.

In the instance before us how ought the case to have been treated ? What should have been done in the early days of the disease ? What should be done now ?

In the early days of the disease, when there was considerable effusion into the deep structures of the limb, giving rise to great tension, we may be sure that the correct treatment would have been to make a free incision down to the bone so as to relieve this tension and allow of the escape of the pent-up fluids. By this treatment the progress of the disease might have been arrested and the extent of the disease limited. The incision indeed could hardly have been made too early ; it certainly should have been made before pus had formed, and in the pathological stage of blood or serous effusion. To have postponed the incision for three weeks, as was done in the case we are considering, was, if it could have been avoided, a great error, for in that time the acute inflammation had done its worst, and extensive death of the inflamed bone had taken place. So much for the early treatment of the case. Let us now consider the treatment of the case as it appears before us at the present time.

When the disease has existed for four months, and it is evident that much dead bone exists, with considerable formation of new bone, the questions arise, is the dead bone loose ? and if so, should it be taken away ? That the dead bone is loose there can be little doubt, for in *acute* necrosis, the ulcerative action which separates the dead from the living bone is, I think I may say, always an active process ; and a mass of dead bone is, as a rule, separated from the living bone in six or eight weeks from the time of its death. Under these circumstances, it would therefore seem right, that the dead bone in the case before us, which is to be regarded as a foreign body should consequently be removed as speedily as possible. But if this were done harm would follow, as the shell of recent periosteal formed bone which exists has not sufficiently hardened into bone tissue to act as a sufficient support to the limb and maintain its shape. Were it a case of necrosis of either

tibia or fibula respectively, or of either the Radius or Ulna respectively, it will be different, as the sound bone would be sufficient to support the limb ; but where the disease is that of a single companionless bone as in this case we must wait until the freshly developed periosteal bone can assume the place of the dead portion.

In conclusion, let me point out a very important lesson we may learn from this case. When called to see a case of febrile disturbance of a doubtful nature, either in infants, children, or adults, but especially during the age of growth, carefully examine the limbs, and particularly the long bones for swellings. I have frequently, in my experience, been called in to see young people, supposed to be suffering from acute rheumatism, which did not yield to any of the ordinary remedies, and have on examination of the limbs, ascertained that it was a case of osteitis or periostitis. Such a mistaken diagnosis is very serious, inasmuch as it means precious, very precious, time lost in relieving tension by early incision, and thus preventing extension of the disease.

Case 2.—A boy, æt. three years, comes before us with enlargement of three or four of the phalanges of both hands, and in two or three of the phalanges there is an opening, through which a probe feels bone and from which a sticky glairy discharge escapes. The child has by no means an unhealthy appearance. The trouble commenced when he was about one year old. It has therefore existed now for two years ; and the evidence clearly shows it to be of a chronic inflammatory nature. In this case there can be no doubt that the bones, together with the periosteum covering them, are the seat of the trouble.

Has it a local origin ? or is it the result of some constitutional taint ? That is to say, is it of a tubercular or a syphilitic nature ? That the trouble had a local origin was fairly negatived by the fact of so many bones being involved ; and also from the age of the child ; for the only local cause is likely to be traumatism, and from such a babe is fairly guarded. The conclusion is consequently tolerably clear, that its cause is constitutional. If we look at him carefully do we find anything suggestive of a particular diathesis ? There is nothing in his appearance suggestive of tubercle, and there is nothing in his appearance suggestive of hereditary syphilis. He is too young to show any indications of this affection in his eyes or teeth, as such do not show themselves for another few years, and there is nothing in

the shape of his face to support either view. On inquiring into the family history there are several suspicious circumstances. His father was an inmate of this institution three times in all, for what was treated as syphiloma. He died here, and the cause of death was said to be glioma. His mother also died in this institution, the cause of death in her case being phthisis. We may take it then that the cause of the trouble is chronic inflammation of the bone of a syphilitic nature in which there is a gummatous deposit which is undergoing caseous degeneration, and producing molecular death (caries) of the affected bones.

For the treatment of this case we must adopt a general one to improve the child's health, and a local one to get rid of this deposit, and thus anticipate the somewhat slow process which is pursued by Nature. Tonics, fresh air, good food, and wholesome surroundings fulfil the first; and scraping, with some spoon, the cavities in the bones will probably fulfil the second. If not, the removal of the bone or finger may be expedient. If we were sure that the constitutional cause was of a tubercular nature the sooner the local disease is taken away the better; for it is now a well-recognised principle of practice to remove all local tubercular deposit as soon as possible, to guard against the dissemination of the local disease. In hereditary syphilis the same rule is not so binding, but it is expedient to follow it as much as possible. In the case before us I should certainly do so.

Case 3.—This is a very interesting case which differs widely from the two I have brought before you. It is the case of a man æt. 74, who was admitted on September 28th, 1892, for some ulceration of the gums of the lower incisor teeth, spreading forwards to the lower lip and backward towards the floor of the mouth. There was likewise a small circular sore one-third of an inch in diameter, with raised edges, and indurated base, and a dry surface, on the left half of the lower lip. This appeared many weeks after the soreness of his gums. There is no history of syphilis. It seems, on going into his history, and on seeing him masticate, that he has been in the habit of biting with his front teeth, and with the gums when his teeth had disappeared, so that about five months ago the gums became sore. At that time the ulcerated parts were said to have been inflamed and soft, and it has only been during the last two months that they felt as though they were hard and indurated.

What is the nature of the case? As we see it now I do not think there is much room for doubt. For the ulcer on the lip, which presents none of the local phenomena of inflammation and has no granulating surface, is clearly due to new growth and its subsequent breaking down. Its raised and elevated edges, indurated base, and dry irregular surface could not be brought about by any other cause; that is, by any other than a chronic infiltration of the tissues involved with epithelial elements, and their subsequent breaking down, by the nutrition of the growth being interfered with from the progressive obstruction of the capillaries of the part by the multiplication of the epithelial cells in the infiltrated tissue.

With respect to the gums I believe another explanation has to be found, for it seems tolerably certain that at first the ulceration was of an inflammatory nature, brought about by local irritation, and that it was by the persistence of this irritation, the epithelial elements subsequently formed in excess, and converted what was at first a simple inflammatory induration into what is now an epithelial cancer. The constitutional tendency for the development of epithelial disease, indicated by the growth on his lip, is showing itself in the gums as a direct consequence of local irritation; the case being similar in its nature to that of a chronic ulcer on a limb or of a syphilitic tongue, taking on at a late period an epitheliomatous action. As a final remark I should also like to point out that it is very rare for epithelioma to appear at the same time in two different parts. Such cases do occur; I have seen several, but they are not common. In sweeps and in those working in gas works, you may occasionally meet with a case in which are scattered over the whole body epithelial infiltrations of every grade, from a mere thickened discoloration of the skin, to a distinct warty growth, and so to a typical epithelial ulcer.

THE ICEBAG AS A THERAPEUTIC AGENT.

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THE value of the icebag in therapeutics is still very inadequately recognised. Tradition sanctions its employment for the arrest of hæmorrhage in hæmoptysis and in typhoid fever, though its utility in these conditions is open to question. But in

visceral inflammations, with the single exception of meningitis, it has been avoided and even imagined to be dangerous. Moist warmth has been relied upon to relieve pain and to dilate the superficial blood-vessels, so that the application of poultices has long been the routine treatment of visceral inflammations, and a diagnosis of pneumonia, pericarditis, pleurisy, or peritonitis appears to the majority of practitioners an irresistible call for poultices. But the reign of the poultice has nearly ended. In surgery it has been almost banished by the antiseptic, and still more by the aseptic measures which have, during the last fifteen years, completely transformed surgical treatment. In medicine it still exists in some quarters as a survival—not of the fittest, for in medical cases in which moist warmth is desirable hot moist flannels, with or without the addition of turpentine, are usually to be preferred. But it will soon, I believe, be generally recognised that many visceral inflammations ought to be treated, not with warmth, but with the local application of cold, precautions being of course taken to prevent any undue chilling of the body generally.

My first experience in the use of the icebag in pneumonia was in January, 1885,* and the remarkable benefit which followed, when it replaced the poultices employed during the first two days of treatment, impressed me greatly. And in this first case I noted a fact which I have often observed subsequently, and which is of the greatest importance in an estimate of the value of this treatment, the fact that where the icebag had been applied there was produced a rapid improvement in the physical signs, although at the same time the disease was still present, and sometimes even extending, in other parts of the lung.

In the "Lancet" for November 2nd, 1889, I published an account of eighteen cases of Lobar Pneumonia and Bronchopneumonia treated with the icebag, all of which recovered. In that paper I drew attention to the fact that the improvement caused by the icebag was not simply a reduction of temperature (though that often occurred to the extent of three or four degrees), but was also a remarkable diminution of the physical signs over the diseased area and an amelioration of symptoms. I will here quote two of these cases to illustrate this statement:—

"Case 15.—Mary A.—, aged twenty, admitted into

* "Two Cases of Bronchopneumonia treated with Bleeding and Ice."—"British Medical Journal," July 11th, 1885.

St. Mary's Hospital, May 11th, 1889, on the fourth day of a pneumonia commencing at the right apex. She had a most unfavourable family history. She stated that her father suffered from asthma, that her mother had died of 'galloping consumption,' that she had lost ten brothers and sisters, and that, of the three who survived, two suffered from consumption. She had herself spat blood at times during the last two years. She had also suffered from 'fits' for four years, and the onset of her pneumonia was marked by a fit instead of a rigor. I saw her first on the fifth day of her illness, and found evidence of pneumonia at the right apex, with temperature 104°, pulse 128, and respirations 48.

"An icebag was applied over the affected apex at noon. At 6 o'clock the next morning the temperature had fallen four degrees, but in the course of the day it rose again to 102°. The pulse remained at 130, but the number of respirations had risen from 48 to 74, and some cyanosis had appeared. The upper part of the right lung, both in front and behind, was now dull, as far down as the angle of the scapula. On May 14th, the seventh day of her illness, the temperature was still only at 102.5°, though the pulse was nearly 130, and the number of respirations had risen to 100. The right lung seemed now to be involved in its entire extent. Both cheeks were markedly cyanosed, and the sputum, which was scanty, very viscid, and a little acrated, was of exceedingly dark colour, almost black, the 'prune-juice' expectoration of admittedly evil omen. A much larger icebag was now obtained, capable of surrounding the whole right chest, and this was applied at 5 p.m. Four ounces of brandy daily were ordered for her, and an ether and ammonia mixture every four hours. On the next day, the eighth, the temperature ranged about a degree lower (101.5°), the pulse remaining at 120, and the respirations still from 88 to 100. But it was observed that the sputum was distinctly less dark, and, at the same time, less viscid and more abundant. On the ninth day the temperature, pulse, and respiration remained about the same, but an extraordinary improvement had occurred in the physical signs. There was now very fair resonance over both back and front of the right lung down to the angle of the scapula, with large moist râles in front, and smaller râles with more natural breathing behind. Below the angle of the scapula there was dulness, with fine moist râles, both inspiratory and expiratory. There was still further improvement in the appearance of the sputum.

"On the tenth morning I found that though the temperature had been even a little higher (103°), and was still 101°, and the pulse and respiration were respectively 120 and 86, the improvement in the physical signs was still more marked.

"My note was 'Very fair resonance behind, even to the base; some impairment in the axillary region from the posterior to the anterior axillary line. Over the front, resonance good as far as the nipple. Over the whole lung bubbling sounds can be heard, moderately loud, and of double rhythm. Cheeks bright-coloured.' Between 6 o'clock and 10 that evening the temperature suddenly fell from 101° to 97°; the crisis had arrived, and the icebelt was removed. After this convalescence was complete. It must be allowed, I think, that in this case the ice was of the greatest service; it is hardly too much to say that it saved the patient's life. The condition on the seventh day, when the large icebelt was applied, was most alarming. The entire right lung was consolidated, and the dyspnoea, the cyanosis, and the 'prune-juice' expectoration indicated the gravity of the prognosis. Seventeen hours after its application a distinct improvement was observed in the sputum and in the hue of the cheeks. Next day a very extensive change for the better had occurred in the physical signs, and this improvement advanced rapidly. It had attained a most remarkable degree before the crisis occurred. It is surely uncommon

in pneumonia for manifest improvement in physical signs to commence thirty-six hours before the crisis, and in this case it seemed certainly due to the local influence of the ice. The comparatively low range of the temperature throughout (after the ice was applied) should also be noticed."

"Case 16.—Harry D., seven years old, an inmate of the Highgate Branch of the Children's Hospital, with a retracted right chest, due to former empyema, the right lung being entirely collapsed (as was found on post-mortem examination some months later), was taken ill on June 22nd, 1887. I saw him next day, and found his temperature 104°, pulse 160, respiration 56. Feeling sure, though I could not prove, that pneumonia of the left, the only working lung was commencing, I had an icebag at once applied over it. The temperature fell 4° before the next morning, but gradually rose again, not attaining the same height, however, for forty-eight hours. On the third day of his illness I detected a small area of dulness over the root of the left lung, and at this spot bronchial breathing. He complained of pain at the epigastrium, and I noticed that his lips and cheeks were already livid. This was not surprising, for his other lung was useless. The prognosis was evidently most grave, and might even have been looked upon as hopeless. Next day, the fourth, the dulness was more extensive, being now four fingers' breadth in diameter, and albuminuria was present, but the complexion was not more blue than yesterday, and the boy seemed a little stronger. The icebag had been persistently applied. Pulse 160, respiration 60. On the fifth day the dulness was decidedly less, measuring now only two fingers' breadth, and the temperature was lower, ranging at about 102°, pulse 152, respiration 58. Epigastric pain continued. The sixth day resembled the fifth. On the seventh day the temperature fell to normal, and the ice-bag was removed.

"Pleuritic friction could now be heard over the dull area and below it. The pleurisy kept his temperature a little raised for a few days, but it gradually subsided without effusion of fluid, and the boy returned to his condition before the pneumonia. By-and-by he was able to go home, but three months later he came back to Great Ormond-street, and died there from cardiac failure. Post-mortem examination showed that the right lung was completely collapsed, the right side of the heart greatly dilated, and the tricuspid valve incompetent, the left auricle and ventricle and mitral valve being normal.

"The left lung was very voluminous; it was healthy except for some very old cretaceous and calcified tubercle at its apex; there were comparatively recent pleuritic adhesions over the left lower lobe. In this case it is hardly possible to doubt that the icebag saved the boy's life in a condition otherwise hopeless."

Since the publication of these cases I have continued to use the icebag in the treatment of pneumonia, and am satisfied that in addition to its beneficial action in the reduction of temperature, it does tend to check the local inflammation of the lung. And no difficulty need be felt in accepting this statement on the ground that pneumonia is a specific disease, due to the presence of micro-organisms, for Dr. Burdon Sanderson stated in his Croonian Lectures ("B.M.J.," Nov. 28, 1891, p. 1137) that "the pneumococcus is one of the most remarkable microphytes known; first, because under certain conditions it is so extremely virulent, but secondly, because it exemplifies the general

principle that virulence is one of the most variable attributes of a microphyte—one which is most affected by its environment." Hence it is readily conceivable that an alteration in the environment, produced by the persistent application of cold, may be a powerful factor in checking the growth of the specific organism. I do not, of course, claim that it will save every case of pneumonia: many of those due to influenza or alcoholism, or of septic origin, are hopeless under any kind of treatment. But I believe that it is capable of saving some lives which would be lost if fomentations or poultices were employed, that it reduces the severity of symptoms, relieves pain, gives comfort to the patient, and brings about an earlier and a more rapid convalescence. The relief of pain is often very striking, and not unfrequently, after the removal of the icebag, patients ask for its re-application on account of the comfort they experience from its presence. A few months ago I saw, in consultation, a lady of 62 suffering from pneumonia, whose condition was critical, and growing worse. With some reluctance, on account of her age, I suggested that the poultices should be replaced by an icebag, and I arranged to see her again three hours later to watch the effect. The change was carried out, and to my inquiry how she liked the ice, she replied with emphasis, "It's delicious!" When I removed the ice in order to examine her chest she exclaimed, "I must have my bag again!" Her improvement commenced with the application of the ice, and she was soon convalescent.

In acute pleurisy, apart from pneumonia, the icebag is often very helpful: it quickly relieves pain, and has often seemed to cut short the disease. Its action may be aided by tightly strapping the affected side, so as to restrain the movements of respiration, the bag or bags containing ice being then applied over the strapping. If the symptoms are very acute it is useful to commence the treatment by the application of a few leeches. When a serous effusion has occurred into the pleural cavity, before the case came under treatment, I have seen the use of an icebag apparently of great service in hastening absorption.

Pericarditis I find as amenable as pleurisy to the local influence of ice, and I have related seven cases thus treated in a paper read at the Nottingham meeting of the British Medical Association. Pain is rapidly relieved, the extent and loudness of the friction rub quickly diminish, and effusion is checked. I have more than once seen pericarditis

treated by the icebag subside without any enlargement of the area of cardiac dulness. The pulse becomes stronger and less frequent, the dyspnoea lessens, and it is clear that the local influence of ice on the heart in pericarditis is not depressant, but decidedly tonic. In conversation recently with Dr. Leech, Professor of Therapeutics in the Victoria University, I was interested to find that he also had observed, and was much impressed by, this tonic influence of the icebag in pericarditis.

I have even seen a recent pericardial effusion rapidly absorbed beneath an icebag: in this case the diminution of the increased præcordial dulness was distinctly made out within a few hours after the application of the ice, and it steadily continued. In pericarditis it is impossible to explain the improvement caused by the ice as being due to mere reduction of temperature; for in pericarditis this is often not much raised, and it is sometimes very little depressed by the icebag which produces so much improvement in the physical signs. And if it be true that the local application of ice does diminish the violence of a pericarditis, it is a fact of the greatest possible importance in practice. Pneumonia, on recovery, leaves the lung little the worse, but pericarditis is apt to involve and damage the muscular structure of the heart, causing permanent dilatation of the cardiac cavities especially of the right ventricle, and a case of "cured pericarditis" is, in very many instances, a case of crippled heart. Hence it is of the first importance to arrest a pericarditis as soon as possible, and from this point of view I believe that the use of ice will be found a very great gain. Experience is as yet too limited to warrant any definite statement about the after-history of these cases; but, from what I have already seen, I feel confident that it will be found in the future that the use of ice in the treatment of a case of pericarditis will often have the result of preventing the loss of many years of the patient's life.

With regard to peritonitis I have little to say, but I will point out that the local application of an icebag is often of great benefit in the less acute inflammations of the vermiform appendix ("perityphlitis"). In the more severe cases of this kind, where decided symptoms of peritonitis are present, no time should be lost in any palliative treatment, for such cases are generally the result of the perforation of the appendix by a concretion, with an acute local abscess, and if not operated on are rapidly fatal. I have had five cases of this kind under my care

during the last three years: the first was not operated on, and died in three days from the earliest symptoms; the other four were submitted to operation within a few hours after admission to hospital. All of them were found to have the condition above described; all four recovered rapidly and completely. (See "Clin. Trans.," 1892, p. 135.)

But where the inflammation of the appendix is less acute, the local application of ice often produces very rapid relief of pain and diminution of the swelling. Anyone who watches the effect of the icebag on this purely local inflammation will be prepared to accept its local influence in pericarditis and in pneumonia.

In catarrhal laryngitis the icebag quickly reduces the congestion, and thus diminishes the urgent symptoms; even in diphtheritic laryngitis it sometimes has given distinct relief.

It is not necessary for me to advocate the employment of the icebag in meningitis, but I should like to mention a case of posterior basic meningitis in a young girl recently under my care at the Hospital for Sick Children, in which ice applied to the occiput and nape of the neck had more influence in checking obstinate vomiting than all the drugs and other means which were used.

In infantile paralysis, if seen within forty-eight hours after the onset, an icebag applied over the affected region of the spine may be expected to render good service. It is not often that these cases are brought to a hospital sufficiently early to give this treatment a chance, but I can remember one case at least in which it was apparently very successful, the resulting paralysis being very limited.

I will say nothing of the employment of ice in the treatment of orchitis, and of some cases of hernia, for of this I have no experience; but I must not omit to point out the benefit which may be obtained from it in recent cases of sciatica. It is now well understood that sciatica is usually not a neuralgia but a neuritis, that it is due to a local affection of the nerve trunk. Hence, it is not unreasonable to expect that an icebag applied over the inflamed part may do good. On two or three occasions I have seen very rapid improvement produced in this way. One such case I will briefly narrate:—

"Thomas A—, 27, printer, admitted into St. Mary's Hospital, July 2nd, 1890, for sciatica of twelve days' duration. On the 19th of June he had sat on a wet seat outside an omnibus; the sciatica began next day. On admission, pain worst behind trochanter, passing down thigh and leg to the foot. Says this limb feels numb.

He has already had four blisters, but these have given no relief. An icebag was applied behind the trochanter. The next day (July 3rd) improvement was noted; there was less pain, and less tenderness where the ice had been. A second icebag was placed over the nerve lower down. In five days (July 7th) he was nearly well; the tenderness behind the trochanter and behind head of fibula had vanished; still 'a little sore' over gluteal region above the trochanter. The patient was allowed to get up, and a belladonna plaster applied. On July 12th he was 'quite well.'

Where the sciatica has lasted for several weeks one can hardly expect much benefit from the icebag, yet I have seen it give marked relief (not cure) in a case of three months' standing, the patient having been in bed for a fortnight, and having had morphine injections three times, acupuncture three times, and eighteen flying blisters—all without benefit. The application of ice quickly "deadened" the pain, and enabled him to sleep. The improvement continued, and further benefit was obtained by massage.

In inflammatory conditions of the eye the value of iced applications is now generally recognised. My colleague, Mr. Silcock, informs me that they give the greatest relief in some cases of purulent conjunctivitis and of traumatic iritis, and that they are frequently employed as a means of preventing the occurrence of iritis after operations for cataract.

I may add a few words about the difficulties that may be encountered in endeavouring to use this method of treatment. In country districts it may be impossible to procure a supply of ice in summer; in towns it may always be obtained from a fishmonger. The block of ice needs to be broken up into small masses; this can easily be effected by means of a hammer and a pin. If an icebag is not at hand, it is usually possible to obtain a waterproof sponge-bag. Two or three new sponge-bags should be procured, and the larger the better; as a rule two such bags are needed at once. When the bag has been loosely filled with small masses of ice, its mouth must be firmly tied, in order to prevent any escape of water. It is sometimes almost impossible to hinder this altogether, but a soft absorbent towel may be placed all round the bag. This difficulty led me to give a trial to Leiter's coiled tubes, but I found them irksome to the patient, and not so efficient.

Another difficulty is that of keeping the icebag in its proper position, especially when the patient turns in bed. Any such movement is apt to displace the bag from its contact with the wall of the thorax, and sometimes to invert it, and thus favour the escape of water and wetting of the

bed-clothes. Often it is possible to prevent these undesirable results by fixing the bag in its proper position by a few turns of a light bandage, but if there is much dyspnoea this may not be possible, and we must then rely on the carefulness and skill of the nurse, who will alter the position of the icebag when the patient moves in bed. This difficulty is less serious than might be imagined, because the soothing effect of the cold applications diminishes restlessness, and enables the patient to lie more quietly.

If there is great local tenderness which resents even the light pressure of the icebag, suspension should be tried, but in this case the nurse must take especial care to see that the suspended bag is kept actually in contact with the surface.

There is not usually any difficulty in persuading patients to allow the application of an icebag, and after trying it for a time they are generally well pleased with it. Twice I have known it to be thrown off after a few minutes, in the delirium of pneumonia, and occasionally the patient has objected to the constraint of position which it had involved, and which might probably have been avoided if he had been the sole charge of the nurse, but as a rule the icebag gives comfort, and often it affords great relief. I can remember only one patient who, though doing well, objected to the treatment throughout.

There may sometimes be greater difficulty in private practice in persuading the friends of the patient to sanction the use of treatment so opposed to traditional notions, but, as a matter of fact, I have not in consulting practice found this to be a real difficulty. Still there is no doubt that the general practitioner must act warily in such a matter, and must remember that if recovery does not follow, he may be unjustly blamed.

Any real harm from the use of icebags may always be avoided by efficient nursing. In the case of an infant or young child the temperature should be taken hourly and the icebag removed when the temperature falls to 100° , and replaced when it again rises to 102° . At the same time the child's legs and feet should be wrapped in hot moist flannels, and it may even be desirable to apply warm fomentations to the abdomen.

In adults also similar applications, or a hot-water bottle to the feet, are often of service, and dilatation of the cutaneous blood-vessels may be brought about by the use of such remedies as jaborandi, alcohol, and nitro-glycerine.

Special care must of course be exercised in the use of ice for aged or debilitated patients. But the case above narrated of the lady of 62, who found the icebag "delicious," shows that even at this period of life benefit may be derived from its employment. And even in such depressed conditions as influenza or alcoholism, it is possible to use this form of treatment with advantage, and my friend Dr. Sansom, of the London Hospital, lately told me of some apparently quite hopeless cases of alcoholic pneumonia under his care which had recovered after treatment with ice.

In such conditions the subcutaneous injection of strychnine will be found of considerable assistance, commencing with two minims of the official solution three times daily, and pushing up the dose to six or eight minims, if no twitching of muscles is observed.

The length of time for which the use of the icebag should be continued in any particular case, must be decided by the progress of the disease and the general condition of the patient.

Sometimes it is desirable to use it for a few hours, and then remove it for an interval longer or shorter, as the symptoms may suggest. Thus it may be applied for four hours, then removed for a like period, and then again applied, and so on. Or it may be used for longer periods during the day, and removed at night. Each case demands a sound judgment on the part of the physician. Sometimes it may be continuously applied for a considerable period, such as two or three days or even longer, without intermission.

Thus, in one of the cases of pericarditis above referred to, the subject of which was a girl of seven years of age, the icebag was kept in position over the heart during the greater part of twelve days, in fact during 186 out of the 288 hours, commencing with a continuous application of 62 hours: the child liked the icebag, and the final result was most satisfactory.

The employment of this remedy no doubt calls for care and watchfulness on the part of both nurse and physician, but with reasonable caution it involves no risk, and it is capable of rendering the most effectual service.

Powder for Flatulence. (*Journal de Médecine de Paris*):

| | | | |
|---|-----|-----|-------|
| ℞ Naphthol. ... | ... | ... | 3j |
| Magnes. Carb. ... | ... | ... | 3j |
| Charcoal in Powder ... | ... | ... | 3j |
| Essence of Peppermint ... | ... | ... | gt.ij |
| F. pulv. Divide into 15 powders. One to be taken at the beginning of each meal. | | | |

A CLINICAL LECTURE ON DILATATION OF THE UTERUS.

Delivered at University College Hospital by
Dr. JOHN WILLIAMS.

THIS patient was in the Hospital last December suffering from uterine hæmorrhage. She was prematurely confined in the previous February, made a good recovery, and was well until August, when she began to bleed at short and irregular intervals—the loss being at times profuse, at others scanty. In November the flow became more or less continuous, and on her admission she lost freely. The uterus was dilated by means of bougies, and curetted. She remained in the hospital for a short time, but the bleeding, although much diminished, did not entirely cease until six weeks afterwards. In April, however, the bleeding returned in considerable quantity, and she was re-admitted on April 26th. The uterus was somewhat low in the pelvis, retroverted, freely moveable, but not enlarged. The cervix was lacerated, and the external os uteri was patulous, admitting the finger to the root of the nail. Although the cavity of the uterus was scraped in January, yet I think it right to repeat the operation, but I also wish to explore the cavity with my finger. Tents were therefore introduced last night, and I will now proceed to dilate further with bougies, so that I may effect my object. On exploring the cavity with my finger I find nothing to account for the hæmorrhage. Nothing abnormal can be felt in the interior of the organ—the surface appears to be everywhere smooth and healthy. I am, however, not able to explore the cornua. I will, therefore, curette these parts. You see that from both cornua I remove fungosities or thickened mucous membrane. I have in this instance selected the use of tents, followed by that of bougies, because I wished to introduce my finger to explore the uterine cavity. There are several methods which are in use for dilating the uterine canal, and the choice of means should depend upon the object with which the dilatation is undertaken. These objects are the relief of dysmenorrhœa, the cure of sterility, the exploration of the uterine cavity and removal of intra-uterine growths, the treatment of disease of the interior of the uterus by means of drugs or the curette, the induction of labour or abortion, and the removal of the products of pregnancy, such as portions of placenta and membrane left after parturition or abortion. The means at our disposal for effecting dilatation of the uterus

are graduated bougies, dilators with two or more blades, worked by a screw or by the hand, tents, and under certain conditions, hydrostatic bags. Hydrostatic bags are used to dilate the cervix with the object of hastening labour, and a certain amount of dilatation is necessary before they can be employed. Dilators with blades are far inferior to bougies and tents. Bougies and tents have been in use for many years, but tents have been recently discarded almost entirely in favour of Hegar's bougies. A uterine bougie is an instrument made of steel, about 11 inches in length, having the shape of the uterine sound. They are graduated in size from No. 5 to 25 English, or larger. Hegar's bougies are modifications of the English, and differ from them chiefly in being about 3 inches shorter, and being made of vulcanite. The modification is not an improvement. Tents are made of compressed sponge, laminaria digitata, or tupelo wood, and their efficiency in causing dilatation depends upon their power of absorbing moisture, and thereby swelling. They also cause a remarkable softening of the tissues of the cervix. Sponge tents are chiefly of use during pregnancy. Laminaria and tupelo tents also may be and are used in this condition; but they are especially of use in the unimpregnated state. When dilatation is employed for the relief of dysmenorrhœa, rapid dilatation or that effected by bougies is employed. Our object is not the enlargement of the canal, but the stretching of the tissues of the cervix, with the view of destroying the tendency to uterine spasm. The uterine canal is rarely—perhaps never—so small as to offer obstruction to the escape of the menstrual fluid. The average cervical canal admits a No. 8 bougie (English), but dysmenorrhœa is frequently present when the canal admits a No. 10 or 12 readily, and is often absent when it admits No. 8 with difficulty. The principle of dilatation of the cervix for dysmenorrhœa is the same as that of stretching the anus for spasm, or the vaginal orifice for vaginismus. The reason for the operation, when undertaken for sterility, is the same. It would be ridiculous to suppose that the canal of the cervix will not permit the passage of spermatozoa when the much smaller canal of the fallopian tubes readily admits them.

Dilatation of the cervix in the unimpregnated state is undertaken also for exploration and diagnosis of the condition of the uterine cavity and for treatment, for making intra-uterine applications, and the removal of diseased mucous membrane and of

intra-uterine growths; and after pregnancy for the removal of retained portions of placenta and membranes. The method which you should adopt in any given case varies with the condition with which you have to deal; and depends upon whether you wish simply to curette the uterus or to apply drugs to the cavity, or whether you wish to explore with the finger or remove growths. For curetting and making intra-uterine applications it is not generally necessary to introduce the finger through the inner orifice. It is enough to dilate the canal sufficiently to permit the introduction of the curette or the application which is to be made. This amount of dilatation is best effected by bougies, and is obtained when No. 22 (English) is passed. This is ample for the purpose, and can generally be accomplished without laceration. When, however, it is necessary to introduce the finger to explore the uterine cavity this is insufficient, and to effect a greater dilatation by means of bougies is dangerous, except in women who have been recently pregnant, and in whom the cervix is soft and easily dilatable. In the unimpregnated state they cause laceration, which may be serious; and the laceration usually begins at the inner orifice. The patient, whose cervix I have just dilated, was delivered sixteen months ago. In the operation, therefore, I did not rely upon bougies alone, but introduced laminaria tents last night, which were removed this morning. These not only dilated, but also softened the cervix, and enabled me to further dilate it by bougies without difficulty to a degree sufficient to allow the passage of my finger to explore the cavity.

Until recently tents were always used to dilate the unimpregnated uterus, and for the purpose of exploring the cavity they are still indispensable. They have been discarded in favour of the rapid method by the use of bougies, from the fear of causing septicæmia. When used recklessly, and women are allowed to move about, take journeys, or go to parties with a tent in the uterus, the danger of causing inflammation and septicæmia is great. With ordinary precautions, however, the risk of causing injury by tents is extremely small. I have rarely seen mischief follow their use, and never serious mischief, even before the introduction of antiseptics into practice. This slight risk may now be removed, for tents can be disinfected by being soaked in an alcoholic solution of corrosive sublimate or an ethereal solution of iodoform. When this last precaution is taken the use of tents is safer than that of bougies, when the degree of

dilatation required is such as to permit the introduction of the finger to explore the uterine cavity.

Some instances of the pregnant uterus are met with in which dilatation by bougies cannot be accomplished to the degree necessary to permit the passage of the finger through the inner orifice. Such a case was in the Hospital last October. The patient had had three abortions at about the third month of pregnancy. She was pregnant for the fourth time, and suffered from uncontrollable vomiting and jaundice. She became greatly emaciated, and it was decided to terminate the pregnancy. With this object an attempt was made to dilate the cervix by means of Hegar's bougies, but the inner orifice was so rigid that it was found impossible to pass a higher number than No. 16. The finger could not be passed through that orifice, and a rigid ring, like a ring of cartilage, was found in that situation, and slight tears had been caused in it by the passage of the instrument. Tents were therefore introduced, and these brought about the required dilatation, and permitted of the removal of the uterine contents.

You should therefore be guided in your practice by the following rules:—

(1.) For making intra-uterine applications, and for curetting the unimpregnated uterus, bougies are efficient, and the best means for dilating the cervix.

(2.) For exploration of the uterine cavity, and the removal of intra-uterine growths in the unimpregnated organ use disinfected tents, followed, if necessary, by the use of bougies.

(3.) In women who have been recently pregnant, bougies may be employed both for exploration and removal of retained portions of placenta or membranes.

(4.) There are conditions of the pregnant uterus in which the internal orifice is so unyielding that dilatation sufficient to permit the introduction of the finger cannot be effected by bougies. In such cases tents should be employed.

I scarcely need add that in all cases in which dilatation of the uterus is undertaken, and for whatever purpose, you should observe strict anti-septic precautions.

Ointment for Varicose Ulcers. (*Allgemeine Med. Cent. Zeit.*):

| | | | | | |
|---|-------------|-----|-----|-----|-----------|
| R | Zinci Oxid. | ... | ... | ... | 15 parts |
| | Vaselini | ... | ... | ... | 40 parts |
| | Lanolini | ... | ... | ... | 100 parts |

Ft. unguent. To be applied four times daily after washing and drying the ulcer.

THE NATURE OF ECZEMA.

A Clinical Lecture delivered at the London Hospital.

By JONATHAN HUTCHINSON, F.R.S.,

Emeritus Lecturer on Surgery at the London Hospital.

THE forms of dermatitis which we are accustomed to include under the name of "Eczema" present, quite apart from questions of treatment, some very interesting pathological problems. They may be made, I think, to throw much light upon other domains of pathogenesis. I will take it that there is a general agreement as to what ought to be called eczema. It is a superficial inflammation of the skin, attended very transitorily, and not invariably, by the formation of vesicles. It is usually attended by some desquamation and abrasion, and in its more typical forms by the pouring out with tolerable freedom of an almost transparent fluid. This fluid has the property, when it dries, of making linen stiff. It forms thin crusts on the affected surface, and it is not attended by any odour. The eczematous process is attended by much general congestion of the affected skin, and very often by some slight enlargement to the hair-follicles. When the latter is present little red papules are formed, and we speak of it as a lichenoid eczema. Eczema does not, as a rule, cause any enlargement of the lymphatic glands. Although we mention serous secretion as a prominent feature in the more typical forms of eczema, yet we quite recognise that this is not an invariable feature, and that there are forms in which the surface remains quite dry, and in which slight redness and superficial exfoliation of the epidermis are the only features. The parts of skin affected by eczema may sometimes be abruptly defined, and in others not at all so, and the inflammation may restrict itself in some cases during many years to certain parts, and in others may spread rapidly over almost the whole surface. A few general statements may be made respecting all forms of eczematous inflammation. As a rule, they never tend to spontaneous recovery, but, unless treated, become more extensive and more severe. The exceptions to this are when the patient changes place of residence or mode of life. Secondly, an eczematous process, which has been for many years strictly local, may suddenly commence to spread, and may travel, beginning at the edges of the original patch, over the whole body. Thirdly, proof is abundant and convincing that the tendency to eczema may be hereditary. Thus it may prevail in several persons in the same family, and may occur with great severity in successive generations.

The laws under which it is transmitted appear to be the same as those of other heritable diseases. They do not prove that the disease, as a totality, is inherited, but rather, perhaps, that a condition of skin especially liable to it is so transmitted.

I will now attempt briefly to sketch some of the chief clinical groups of eczema cases. In doing this I shall still keep clearly before me the hope of throwing light upon its real nature.

GROUP I. ECZEMA IN INFANTS.

Our first group is the eczema of infants, and is perhaps the largest of all. Young infants in perfect health become affected by congestion which usually begins on the scalp, and is attended by little red lichen papules. Fluid secretion soon follows, and a thin crust forms. The infant scratches and rubs, and in the course of a few weeks the eczema may have spread to the face, neck, arms, and even to the whole body. During this spreading the eruption is usually in patches, and is but seldom quite diffuse. This eczema of infants does not appear to have anything whatever to do with the child's health. The infant is usually quite well up to the time of its commencement, and excepting in so far that the dermatitis may interfere with its comfort and rest, it remains so throughout. The disease is somewhat difficult of cure until about the end of the lactation period. Even in the most troublesome cases medical treatment generally succeeds about the time that the child is being put upon a mixed diet and is fed less exclusively on milk. Sometimes a complete change, to the sea-side for instance, will cure a child of eczema, and sometimes it will make it worse. This infantile eczema often occurs with great severity in child after child of the same family, and there is often the history that relatives in preceding generations have suffered from it. The same remedies which we use in other cases are suitable for infantile eczema, and chief amongst these are weak preparations of tar. The facts as regards the eczema of infants might fit well with the hypothesis that there is no real disorder of the child's health, but that it is born with a skin more susceptible to irritation than the average, and that exposure to the air, wind, sun, and the like, and above all, the use of hard water and of soaps for washing, are attended by undue irritation. To these influences must be added as of extreme importance the child's irrepressible tendency to scratch and rub. Even in the most severe cases if infantile eczema be once completely cured, there is little or no tendency to

relapse. The skin becomes perfectly sound and soft, and it remains so through the rest of life. The inference from this fact seems to be that the dermatitis when at its height is due to the existence of some contagious material which has in some way been generated, and that it is only in a very feeble sense of the words a constitutional malady. It is to be added, however, that the eczema of young infants scarcely ever manifests any contagious properties as regards other persons. It is very rare indeed that the nurses or other children in the same house suffer. It may further be added with reference to relapses that those who have suffered in infancy and been quite free during the greater part of life, sometimes become its subjects again in old age.

GROUP II. ECZEMA DUE TO OCCUPATIONS.

Another large group of eczema cases consists of those in which we encounter this form of dermatitis in association with certain known local irritants. Pot-boys, grocers, paper-stainers, and those who expose their hands to lime, are all liable to have eczema induced. Under such circumstances, it is often frequently recurrent, and sometimes nothing but change of occupation will cure it. It is not very uncommon to see it spread widely and to parts far distant from those to which the irritant has been applied.

GROUP III. SENILE ECZEMA.

An exceedingly important group is that in which eczematous inflammation attacks the skin of elderly people, and spreads, clearly by contagion, it may be, over the whole surface. These cases are often of distressing severity, much interfering with the health, and it may even cause death. In many respects they much resemble the eczema of infants, but with the difference that whilst the generalised eczema of infancy usually begins on the head or face, that of senility more often has its starting place on one leg. Between infancy and old age, although generalised eczema is not unknown, it is much less common. Nine out of ten of our well marked cases occur either in young children or old persons. It is a remarkable and important fact that in most of the cases of general eczema of the aged there is the history of a chronic patch on one leg for many years prior to the outbreak. It would appear that, under certain unknown conditions, a patch of red eczema which had for years given no trouble, may inflame and generate a contagious material, which may cause the dermatitis to spread

from the leg over the whole surface. The subjects of these severe outbreaks of senile eczema are not as a rule in any way out of health. It may be observed respecting some of these cases of general eczema in senile persons that it is very difficult to distinguish them from the disease known as pityriasis rubra or dermatitis universalis.

GROUP IV. EPIDEMICS OF ECZEMA.

In connection with senile eczema, which so often manifests very active infective properties on the skin of the patient, we have to mention that forms of dermatitis, which can in no way be distinguished from it, sometimes prevail as epidemics in public institutions. We owe much to the zeal of Dr. Savill in connection with an outbreak of this kind which occurred last summer in the Paddington Sick Asylum for our knowledge of this subject. The epidemic which occurred under his observation was, however, not the only one which has been witnessed, nor, indeed, was it the first.* No doubt there have been many. These outbreaks seem to prove, conclusively, that whenever elderly persons are congregated together under favouring conditions (hot weather, clothed in flannel, kept in bed, etc.) eczematous inflammation may spread from one to another by contagion. To myself, these cases have been of the utmost interest, for having long held that eczema spreads by contagion on the patient himself, I had wondered that we did not sometimes see it spread also to others. In all the epidemics which have been observed there appeared reason to believe the contagious element had developed unusual virulence, for the eruption spread with somewhat exceptional rapidity in individual patients, and was also communicated to others in whom no very close exposure could be proved. Clearly something had been superadded or developed which made the cases differ much as regards contagion from the ordinary forms of eczema which they resembled. Yet, in several instances, the patients who suffered, and by whom, apparently, the disease was introduced into the hospital, had for long been the subjects of chronic eczema which had undergone exacerbation at their own homes. The disease, in different cases, presented all the varieties which we observe in sporadic eczema, and in several produced conditions closely resembling pityriasis rubra. In not a few cases the attack of dermatitis proved fatal. In looking

at all the facts of these very remarkable epidemics the supposition does not appear at all improbable that in some way the poisons of erysipelas and that of eczema had met together and produced mutual modifications.

GROUP V. ERYSIPELAS ECZEMA.

There remains for consideration yet one other group of eczema cases. It is one of much clinical interest, for in it, as in some other forms, we appear to have a sort of hybrid between erysipelas and eczema. I refer to cases chiefly but not quite exclusively met with in middle-aged or elderly persons, in which there is a liability to repeated attacks of inflammation of the face. The first attack is almost always diagnosed as erysipelas, and is attended with great oedema of the eyelids. In subsequent ones the phenomena of erysipelas become less and less marked, and those of eczema more so. For some years the disease is usually paroxysmal, the patient being almost or quite well in the intervals of the attacks. Gradually, however, in many cases the dermatitis settles down into a persistent form of eczema of the face and neck. Exposure to cold wind or to hot sun are the usual provocatives of this disease, and since they are causes which it is very difficult wholly to avoid, the malady is very difficult to cure. It differs from another allied form of dermatitis of the face, in which repeated attacks of erysipelatos inflammation end finally in solid oedema, but in which there is at no time any tendency to the eczematous type of inflammation.

GROUP VI. LOCAL FORMS OF ECZEMA.

A large but ill-marked group embraces those cases of eczema in which the disease occurs as a local inflammation affecting certain regions and showing little tendency to spread. A great number of persons are at one or other time in their lives liable to eczematous irritation of this kind. The patches may occur on the face, neck, or, in fact, on any part of the body. With suitable treatment, and more particularly with abstinence from excess in washing, they are usually easily cured, but if neglected, may persist indefinitely. After long persistence in a quiet condition they may become the foci of a general outbreak.

Under the name of what is sometimes called intertrigo we have cases of eczema which occur in the flexures of the joints and in parts where two surfaces of skin are opposed to each other. Intertrigo is common in children and in fat persons,

* See "Archives of Surgery," Vol. III.

and much less so in adults and those who are thin. Its phenomena illustrate two facts: first, that all friction, chafing, etc., may become a means of evoking this kind of inflammation; and, secondly, that its secretions are irritating, and may produce, on the opposite surface, by contagion, an inflammation of a similar type. The cure of intertrigo depends upon the prevention of friction, and upon expedients to secure that the opposed surfaces shall not touch each other.

Another group of eczema cases may be constituted of those in which the affection is restricted to the extremities, more usually to the hands. In some of these cases it is probable that a peculiarity in the circulation of the extremities has something to do with the disease, and to such the term *acrodermatitis* or *acro-eczema* is applicable. More usually, however, affections strictly of this kind ally themselves with chapping of the hands, cracked finger tips, etc., than with anything that deserves to be called eczema.

The latter term is but rarely applicable to any affection which strictly limits itself to the tips of the fingers. Patches of what is called dry eczema of the hands are often arranged with more or less irregularity on the side of the fingers or on the back or palm of the hand itself. They are, I think, frequently in association with some excitant cause in connection with the patient's occupation, the use of tools, but more especially the use of chemical implements, such as washing, etc., are the causes. Surgeons who are obliged to wash their hands very frequently often suffer from dry eczema of the fingers, and not unfrequently get rid of it entirely when temporarily exempted from their occupations. Here, as everywhere in the whole domain of eczema, we must keep clearly in mind the fact that individual peculiarities in the organization of the skin are the fundamental predisposing cause.

IS ECZEMA CATARRHAL?

By several of our distinguished dermatologists it has been proposed to use the term *catarrhal dermatitis* as applicable to eczema in general. Against this I must enter protest. Everything, of course, depends on the meaning to be attached to the word *catarrhal*. If it is to be restricted, as I certainly think it ought to be, to disturbances of function, which result from catching cold, then surely it is only the most exceptional forms of eczema which would deserve to be so designated. If, on

the other hand, it is to mean any inflammation which is attended by fluid secretion from the irritated surface, then I submit that it ceases to have any clinical usefulness whatever. The cases of eczema which are perhaps in some real sense *catarrhal*, are those included in my last group. But in these the alliance is far more close with *erysipelas* than with *catarrh*. If there are cases of eczema in which the patient is liable to attacks which recur periodically in definite connection with exposure to cold and damp, and show more or less definite tendency to spontaneous recovery, we might to them very suitably apply the term *catarrhal*. I should be puzzled, however, to cite a single definite example of this condition. And it is obvious that in the tendency to spontaneous recovery such cases would contradict all that we know respecting the laws of *eczematous inflammations* in general.

Those who hold that *eczematous dermatitis* is often due to gout are, I think, bound to state with some degree of precision what they mean. The liability to lithiasis, to acute attacks of *podagra*, and the formation of *tophi* is one form of gout and the best pronounced. In association with it eczema is undoubtedly very rare. I have seen many patients with *tophi* and many with eczema, and few indeed are the instances in which I can remember to have met with the two conditions together. If, however, we count as the subjects in greater or less degree of a *gouty tendency* all who are the descendants or relations of those who have suffered from declared gout, then we shall find amongst them many who are the subjects of eczema. We shall find amongst the middle classes of English society hundreds who are very willing to believe, and even to suggest, that their eczema is *gouty*, and who do undoubtedly suffer from *dyspepsia* and joint pains which are not improbably of that nature. Statistics might be collected with the utmost ease to prove that the eczema of middle-aged and elderly persons is usually in association with *gouty tendencies*. Yet it may be doubted whether they would prove any very real or close connection between the two. Very much will depend upon the class from which the patients are drawn. I am quite prepared to admit that certain articles of diet, such as milk, sugar, and some kinds of fruit, may have the effect of making the skin irritable, and thus increasing the tendency to eczema. Thus it may in some cases be advisable to regulate the patient's diet. In the majority of cases, however, you will do nothing either by diet or drugs for the cure of chronic eczema or for the prevention of

acute attacks. Those who put faith in colchicum and alkalis always at the same time attend carefully to local treatment as well. It is the old story over again of Voltaire, the flock of sheep, incantations and arsenic. No one can doubt that in a great majority of our cases of eczema there is no reason whatever to suspect lithiasis, or any other special condition of the blood, as its cause.

IS ECZEMA PARASITIC?

Whether the eczematous process is attended by any parasitic organism is a question as yet under debate. Many dermatologists, and more especially Dr. Unna, of Hamburg, have worked hard at this problem. Dr. Savill, in connection with the epidemic of eczema at the Paddington Workhouse, and Dr. J. Risien Russell have believed that they have isolated the microphyte. Whether this has been proved or not is a question which must be left over for the present. I do not, for my own part, feel at all inclined to accept the view that the presence of a parasite is necessarily implied in all cases where an inflammatory process proves contagious. On the other hand, I would like to assert the probability that almost all products of inflammation, with the partial exception of those which are in association with neuritis (herpes, morphea, etc.), are more or less infectious. That microbes very quickly attack inflamed and damaged tissues may also be taken to be an ascertained fact, and it is probable that when they do so they very materially help the process of contagion. It is not at all improbable that it is the addition of some element of this kind which determines the almost virulent contagiousness of some types of eczema. Parasitic organisms, although not really the cause of the disease, may possibly become the means of its communication. That there is any one microbe which is the cause of the eczematous process in general appears to me, in the light of clinical facts, improbable in the highest degree.

CONCLUSIONS.

We come, then, I think, to the following general *conclusions* respecting eczematous inflammations of the skin:

To speak of eczema as if it were a substantive disease is obviously a mistake. It is simply one of the commonest forms of local dermatitis, and may be evoked by a great variety of kinds of local irritation.

By whatever cause it may have been evoked, it always, in the act of inflammation, originates a

material which is more or less infectious to the tissues of the patient.

Some persons are much more liable to eczematous inflammation than others, the difference probably concerning the organisation and functional perfection of the skin itself.

There is very little evidence in support of the belief that the liability to eczema ever depends in any material degree upon the state of the patient's health (scrofula, gout, or any other form of diathesis).

Scratching is one of the chief causes of the extension of eczema, and thus anything (wine, fish, sugar, fruit, and the like), which in the individual makes the skin itch, may aggravate eczema.

Although eczema may occur at any period of life, there is a special proneness to it in infancy and old age.

In exceptional cases the infective spreading of eczematous inflammation on the patient's skin may be such as to suggest some complication with erysipelas.

There are other rare cases in which an inflammation of the face, which resembled erysipelas in the first attack, may prove recurrent, and may take on the form of a chronic eruption, not distinguishable from eczema.

Although, for the most part, eczematous inflammations manifest no tendency to spread from the patient to those about him, yet in rare instances, especially when in hot weather many elderly persons occupy the same ward, eczema may prevail as an epidemic.

When eczema is epidemic in the wards of an Asylum the cases present no differences whatever from those which are seen frequently as isolated examples in private practice. In their course, treatment, terminations, and liability to relapse, they are exactly the same.

The eczematous type of the inflammatory process is by no means an abruptly defined one, but may, in different cases and probably in connection with differences in cause, and in the organisation of the skin in the individual patient, present considerable variations.

Eczematous processes very rarely indeed show any tendency to spontaneous subsidence. Under all ordinary conditions they become aggravated, unless cured by art.

The measures of treatment demanded are, first, the removal of all exciting causes; secondly, the employment internally of remedies calculated to

allay irritability and reduce inflammation; thirdly, and by far the most important, the patient local use of much diluted applications, likely to repress cell-growth, and possibly to act as parasitocides (tar, mercury, lead, and the like).

FORMULÆ.

Cholilithiasis. (*Dujardin-Beaumets*):

- R. Sodæ Salicyl. ... 3ss
Aquæ ... 3vij
M. F. mist. One dessertspoonful after meals.

Whooping Cough. (*Bull. Gén. de Thér.*):

- R. Resorcin
Antipyrin ... aa gr.xv
Acid Hydrochlor. ... ℥x
Syrup ... 3j
Aquæ ... 3iiss
- Or
- R. Resorcin
Antipyrin ... aa gr.xv
Syrup ... 3j
Syrup Acaciæ ... 3iiss
- M. F. mist. Three to five dessertspoonsful a day.

Lotion for Chapped Hands. (*Baels. Med. chir. Centralb. Pharm. Post.*):

- R. Caustic Potass ... ½ gramme
Glycerin
Alcohol... aa 20 grammes
Aq. Distillat ... 60 grammes
- M. F. lotio. Sig. Apply the lotion and rub it well in every 24 hours, after washing with warm water.

Coryza. (*Bull. Pharmacy*):

- R. Salol. ... 1 part
Acid Salicyl. ... 20 parts
Acid Tannic ... 10 parts
Acid Borac. (Pulv.) ... 4 parts
- M. One pinch should be taken into each nostril at the commencement, and then every hour for eight hours, but not longer.

Ringworm. (*Shoemaker*):

- R. Cupri Oleat. ... 3ss
Adipis Benzoat... 3j
- M. F. unguent.

Inhalation for Acute Coryza:

- R. Acid Carbolic
Liq. Ammon. Fort ... aa 10 parts
Absolute Alcohol ... 40 parts

To be poured on a sponge in a glass stoppered bottle, and frequently inhaled.

Ointment for Ulcerated Chilblains. (*Brogg. Internal. klin. Rundschau*):

- R. Acid Carbolic ... 1 gramme
Ung. Plumbi ... } aa 20 grammes
Lanolin... ... }
Ol. Amygdalar. dulc. ... 10 grammes
Ol. Lavandulæ... ... 20 drops
- To be applied twice daily.

Ointment for Hæmorrhoids. (*Rev. de Thér. Gén.*):

- R. Atropinæ Sulphat ... gr.iv
Acid Tannic
Morphinæ Sulphat ... aa gr.vj
Cocainæ Sulphat ... gr.xxx
Vaselin ... 3j
- M. F. unguent. Sig. Apply a small quantity to the hæmorrhoid after each stool.

Ointment to soothe the Itching of Measles, Scarlatina and Chicken Pox. (*La. Sem. Med.*):

- R. Lanolin... 5 parts
Vaselin ... 2 parts
Aq. Distillat ... 2½ parts
- F. ung. Rub into the skin every three hours.

Pruritus. (*Med. and Surg. Reporter*):

- R. Menthol ... 3j
Alcohol... 3j
Aquæ ... 3ij
Acid Acet. ... 3iv
- M. F. lotio. To be applied with a sponge.

Dandruff. (*Can. Pract.*):

- R. Acid Salicyl. ... 3ss
Sodii Boratis ... gr.xv
Bals. Peruviani ... ℥xxiv
Ol. Anisi ... ℥v
Ol. Bergamot ... ℥xv
Vasellini ... 3iij
- M. F. unguent.

THE SPAS AND BATHS OF THE UNITED KINGDOM AND EUROPE,

CLASSIFIED UNDER THE NAMES OF THE DISEASES FOR WHICH THEY ARE INDICATED IN TREATMENT.

THE object of this compilation is to enable the busy practitioner to ascertain quickly the principal Spas and Baths suitable to any particular disease. The list does not pretend to be exhaustive. So far as possible the alphabetical order of the names of diseases will be maintained from week to week, except where there is any special reason for altering it to suit the other contents of any weekly number. We shall be glad to receive any corrections or

additions for incorporating in the reprint to be published when the series is completed.

As a brief description of the nature of the waters they are classified into (1) saline or aperient, (2) alkaline or antacid, (3) indifferent or table waters, (4) and lastly, a class named after the most important constituent of the water, thus: Ferruginous, Sulphurous, Arsenical, etc.

Anæmia—

| Name of Place. | Where Situated. | Height above Sea-level. | Nature of Water. | Best Time of Year for taking the "Cure." | * Distance in Hours from London. |
|---------------------------------|-----------------------------|-------------------------|------------------|--|----------------------------------|
| Flitwick | Beds., England ..... | ..... | Ferruginous | <i>B</i> | |
| Harrogate | Yorkshire, England... | 420 feet | Ferruginous | Summer-Autumn | About 5½ hours. |
| Moffat | Dumfries, Scotland... | ..... | Ferruginous | Summer-Autumn | " 8½ " |
| Trifriw | Denbigh, Wales ... | ..... | Alkali- | May-October ... | " 8 " |
| Tunbridge Wells | Kent, England ..... | ..... | Ferruginous | May-October | " 1½ " |
| La Bourboule | Auvergne, France ... | 2850 " | Arsenical ... | May-October | " 22 " |
| Levico | Trenturo, Austria ... | 1600 " | Arsenico- ... | May-October ... | Innsbruck, 31½ hrs. } by |
| | | | Ferruginous | | Innsbruck-Trente, } rail |
| | | | | | 6½ hours. |
| | | | | | Trente-Levico, 8 hours |
| | | | | | by carriage. |
| Altwasser | Germany | 1300 " | Ferruginous | May-October | About 35 hours. |
| Driburg | Westphalia, Germany | 633 " | Ferruginous | June-October | " 24 " |
| Elster | Germany | 1300 " | Alkali-saline | Summ.-Autumn | " 25 " |
| | | | Ferruginous | | |
| Franzenbad | Austria | 1900 " | Alkali-saline | Summ.-Autumn | " 38 " |
| | | | Ferruginous | | |
| Griesbach | Baden, Germany..... | 1500 " | Ferruginous | Summer-Autumn | " 26 " |
| Hammam R'Irha | Algiers, Africa | 2000 " | Ferruginous | { Spring, Autumn | { " 62 " |
| | | | | { (late) & Winter | |
| Homburg | Germany | 600 " | Ferruginous | June-October | " 24 " |
| Marienbad | Austria | 1900 " | Ferruginous | May-October | " 40 " |
| Pyrmont | Hanover, Germany... | 400 " | Ferruginous | Summer-Autumn | " 25 " |
| Rippoldsau | Black Forest, Germany | 2000 " | Saline- | Summ.-Autumn | " 24 " |
| | | | Ferruginous | | |
| Royat (St. Victor Spring) | France | 1480 " | Alkaline ... | 15th May-15th October | " 22 " |
| | | | Ferruginous | | |
| Schwalbach | Hesse-Nassau, Germany | 955 " | Ferruginous | May-October | " 16 " |
| Spa | Belgium | 1050 " | Ferruginous | May-October | " 14 " |
| Steben | Germany | 1900 " | Ferruginous | Summer-Autumn | " 38 " |

B There is no accommodation for Visitors. Water is bottled for use.

* For the information contained in this column we are indebted to Messrs. Cook & Sons, Tourist Agents.

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THE CLINICAL JOURNAL.

WEDNESDAY, NOVEMBER 9, 1892.

A CLINICAL LECTURE

ON THE

TREATMENT OF GALL-STONES.*

Delivered at the London Hospital

By O. H. RALFE, M.D. Cantab., F.R.C.P.,

Physician to the Hospital, etc.

GENTLEMEN,—The treatment of gall-stones by the physician resolves itself into (1) giving assistance to their passage through the biliary ducts into the intestine when already formed, and (2) prevention of their recurrence, by arresting their formation when a tendency to cholelithiasis is suspected.

I. THE EXPULSION OF GALL-STONES.—When a gall-stone endeavours to make its way along the biliary passages, it gives rise to more or less disturbance, the chief manifestations of which are *pain* (colic) of a paroxysmal character, for though it may be continuous for some hours, there are distinct remissions and exacerbations; and *vomiting* of reflex character. If, however, there be no actual sickness, there is always a certain degree of nausea. Should the stone be lodged in the common duct there is usually jaundice, unless the concretion is small, or has been lodged for some time in the duct, in which case the bile is able to find its way into the intestine, especially in the latter instance, when the passage becomes dilated. In recent cases, however, absence of jaundice points rather to obstruction of the cystic than the common duct; since when the cystic duct is obstructed bile passes freely into the common duct by the ductus hepaticus, whilst it is only the overflow from the gall-bladder that is checked, and this is not sufficient to cause jaundice. The urine in almost every case of biliary colic at the outset is pale, profuse, and of low specific gravity, but it soon becomes more scanty and dark-coloured; if jaundice is present, from the bile pigments, and frothy from excess of mucin; if jaundice is absent, of a dark brown from excess of urates. When jaundice occurs the urine often shows the presence of bile pigment before the skin becomes tinged. The pain in biliary colic can usually be distinguished from right renal colic by its distribution, radiating round the right hypochon-

drium towards the region of the umbilicus, whilst in renal colic the pain shoots downwards towards the groin. Our treatment for the relief of biliary colic depends in great measure on its character and severity: whether the symptoms are well pronounced and determinate, or whether they are fugitive and ill-defined.

(a.) *Severe biliary colic.* In these cases our measures are chiefly directed to the removal of any resistance to the onward passage of the concretion. These chiefly are found in the condition of the ducts. In a previous lecture, when we were considering the anatomy of the biliary apparatus, I pointed out the sphincter-like arrangement at the entrance of the common duct into the intestine, and also that the diameter of the duct was wider at the junction of the cystic and hepatic ducts than at the termination of the common duct; an arrangement which evidently favours the ejection of bile into the intestine, but which, when the sphincter is strongly contracted, resists the onward passage of a gall-stone. Another condition of the duct which resists the onward passage of a concretion is the catarrhal condition of the biliary passages, which is found in all cases in which cholelithiasis is of any standing. Assistance is to be obtained by any measure that can increase pressure from behind, by increasing the flow of bile, by stimulating the muscular fibres that are present in the gall-bladder and the biliary ducts. To fulfil these indications, the patient at the first onset of colic should be placed in a warm bath of 95° F., increased to 98° to 100° F., and kept there for fifteen or twenty minutes. On removal, 20 drops of tincture of belladonna should be given, with a full dose of spirits of chloroform, and if, as is frequently the case, the abdomen is tympanitic, an enema by the bowel should be administered. This usually affords great relief by diminishing the flatulent distension, and also by clearing away any faecal masses from the colon, which, by their pressure, may prevent the passage of the concretion along the ducts. Should we have reason to believe that there is considerable catarrh of the biliary passages causing resistance, by swelling of the mucous membrane, additional measures may be resorted to. Poultices of linseed (5 parts) and mustard (1 part) should be applied over the hypochondriac and epigastric regions, and small doses (5 drops) of oil of turpen-

* Abstract of.

tine administered. After the administration of this drug I have often noticed that small moulds of inspissated mucus have passed by the bowel. This, even when not followed by a stone, seems to give relief to the patient. Turpentine also acts in these cases as a direct expulsive agent, by increasing the flow of bile, and by stimulating the muscular fibres that are found in the gall-bladder and biliary ducts. Among the subsidiary measures for relief may be mentioned gentle digital massage. Though I have never been so fortunate as to extrude a gall-stone by means of manipulation, as described by Dr. G. Harley, still in some cases I have no doubt it has, with other measures, been of service. I would, however, advise that it be used with caution and with the utmost gentleness, lest rupture of the duct should occur, or lest a stone too large to pass, should become tightly impacted and produce serious nervous symptoms and even death.* Frequent change of position also gives relief to the patient, and perhaps sometimes aids the passage of the stone. With regard to the administration of opium in cases of acute colic, I am somewhat chary. If given in large doses it sometimes stops for a time the expulsive efforts, and the patient is subjected to other attacks; whilst in small doses it has no decided effect, except in some cases of increasing the patient's nausea. I only give opium when the patient is worn out, and there appears no chance of the stone passing. Then a full dose should be given either by the mouth or hypodermically, and the question of surgical interference decided before a fresh attack of colic ensues. For the relief of pain I have found the inhalation of chloroform during the exacerbation of the paroxysms relieve. When the colic is not very severe *cannabis indica* is often sufficient. For the vomiting, which is often

* An instance of intense nervous disturbance, followed by death, recently occurred in my wards at the London Hospital in a man aged 64, who had suffered off and on for six years from biliary colic. During his stay in hospital he had much improved; had had no attack of colic, gained in weight, and was on the point of being discharged, on the understanding that if the colic returned he was to come back and submit to an operation, when suddenly he was seized with a rigor, his temperature rose to 105° F., and he became delirious and died. Post mortem, nothing was found to account for these symptoms. There was a stone about the size of a hazel nut, indeed, in the common duct, apparently of long standing, for the duct was thickened and dilated, but not ruptured nor ulcerated, and the concretion was freely movable. No abnormal conditions were observed in any other part of the body. My friend, Mr. Best, of Ilford, has also communicated to me the case of a patient suffering from gall-stones in which the temperature rose to 105° F., with intense nervous disturbance, but which symptoms rapidly passed off with no ill result.

very severe and distressing, hydrocyanic acid with bismuth and soda gives the greatest relief, together with small quantities of iced Apollinaris water. Sudden cessation of the colic usually points to the passage of the concretion into the intestine, in which case it is as well to administer a dose of castor oil at once, as the bowels often remain constipated for some time after the attack. On the other hand, gradual declension of the paroxysmal pains generally indicates that the stone still remains in the biliary passages. In this case, supposing the attack of colic has been really severe and prolonged, and encouraged by the means above described, surgical interference should be no longer deferred.

(b.) *Indefinite biliary colic.* In this case the patient has suffered usually for some considerable time, from pains in the epigastric and right hypochondriac region, often attended with nausea, and even with vomiting. These attacks are often regarded as due to hepatic or gastric neuralgia, duodenal ulceration, etc., until their real nature is often suddenly declared either by the supervention of jaundice, or an attack of acute colic. In a case that was under my care in the London Hospital, the patient had suffered from occasional severe pains in the right hypochondrium for some years, attended with gastric disturbance. As I had recently met with another case, that of a medical man who had suffered in a similar manner, and who after a dose of turpentine had got rid of a large round worm, with relief of the symptoms, I ordered a similar dose in this case. On my next visit I found her deeply jaundiced and suffering from severe colic. This declined in a few days, and it was then arranged that an operation should be performed as the stone was evidently too large to pass spontaneously. In these cases it is difficult to formulate a distinct plan of treatment till our diagnosis becomes more assured. Last autumn I saw a gentleman who for five years had been under treatment for his liver, and three physicians of eminence had assured him that he was suffering from cirrhosis of the liver. He was constantly sick, and had frequent agonizing attacks of pain, and had lost over a stone in weight. The bowels were obstinately constipated, and the motions clay-coloured. After watching the case for a little time I was convinced that the case was one of gall-stones, and not cirrhosis, and I ordered him a 5℥ capsule of turpentine night and morning. After the second day he was seized with severe colic, and after several hours suffering felt sudden relief, and

the next day found in his motion a dark-coloured gall-stone the size of a marrow-fat pea. After this the attacks of sickness ceased, but he had occasional returns of pain, so the turpentine was continued, and at intervals of about ten days he passed two more calculi, rather smaller than the first, after which he rapidly recovered his usual health. In many of these cases the use of certain mineral waters are extremely serviceable, I suppose by diminishing the catarrh of the bile ducts. The best waters abroad are those of Carlsbad, Homburg, Contrexeville, and Kronenquelle. At home the saline waters of Llandridnod Wells, Purton, and Harrogate. The patient mentioned above thought he had derived great benefit from the use of the Llandridnod waters. With regard to surgical interference I venture to think that unless the diagnosis is quite assured, or a swelling exists in the region of the gall-bladder or course of the ducts, an operation should be postponed till the real nature of the case becomes declared. For although the symptoms may point strongly to the probable existence of gall-stones, the gall-bladder and ducts may be opened and none found. I have mentioned the case of the medical man whose colicky pains subsided on the expulsion of a round worm. But we have a more instructive case recently before us in the hospital, in a patient sent to us by Dr. Corner, with a history of gall-stones, indeed she brought a faceted stone that she had previously passed. She suffered from paroxysmal pain and sickness, not particularly provoked by food. She was so much emaciated, however, that I feared the existence of cancer, but as her sufferings were great and the stone faceted, indicating the possible existence of another, I persuaded my surgical colleague to perform cholecystotomy. This was done, but no stone was found either in the gall-bladder or the ducts. Some time after this she died, and a chronic gastric ulcer was found in the usual situation, together with cancerous infiltration round the pylorus. Again, it is possible for colicky pains to exist, even with jaundice, without a gall-stone being present. A few years ago I saw a clergyman aged 64, who had repeated attacks of colic, accompanied with slight jaundice, which usually followed exposure to cold east winds or damp, whom I suspected of suffering from gall-stones, an opinion in which the late Dr. Murchison concurred, but who, after several months of observation, got completely well, and since has had no recurrence of the symptoms. We noticed frequently, as the attacks were passing of that

masses of mucus and white-looking moulds were present with the stools, but no concretions.

II. THE PREVENTIVE TREATMENT OF GALL-STONES.—If our attempts to expedite the spontaneous expulsion of biliary calculi often fail, we can at least look with greater satisfaction at the results obtained by our efforts at preventive treatment. A patient who has happily got rid of a gall-stone, or one who is suffering from frequent "recurrent" attacks, is naturally anxious to put a term to his misery, and it is here the physician can best help him. Recent investigation has thrown much light on the nature of the pathological conditions that lead to the deposition of some of the least soluble constituents of the bile, and we are, therefore, now better able to prevent the concretion, or at all events, to arrest their growth, and permit of their passage whilst still small. The investigation of the structure of a gall-stone now tells us much of its past history, whether it has been slowly built up into homogeneous layers of cholesterin and pigment; or with crystals of cholesterin, evidently rapidly precipitated round a nucleus of inspissated mucus; whether the rind is composed of pigment, or else crusted with stearate of lime. The pathological chemist can afford us much information as to the causes which bring about these structural alterations. To recapitulate briefly the chief of these, (1) It may be said that diminution of the natural alkalinity of the bile renders cholesterin less soluble, and if this depressed alkalinity is continued, or the bile rendered acid cholesterin will separate out; this is particularly observable if the change in the reaction is brought about by fermentative action caused by micro-organisms. Mucin, too, is precipitated from its solution in bile when the reaction ceases to be alkaline, so that we have colloid material ready at hand to build up the concretion. (2) Bile deficient of bile salts (glyco and tauro-cholate of soda) seems also less capable of holding the bile pigments in solution, which no doubt accounts for the frequency with which dark-coloured stones are often found in the gall-bladders of persons who have long suffered from biliary disorders attended with a defective secretion of bile, as in cirrhosis of the liver, carcinoma, etc. (3) Catarrh of the mucous membrane of the gall-bladder and bile ducts naturally forms an increase of colloid material, especially in gouty individuals; but beyond this it furnishes the chief inorganic constituent of some gall-stones in the shape of lime. The bile does not contain lime

salts in any considerable proportion, yet in many gall-stones they are in excess, as carbonate and phosphate, but chiefly as stearate of lime; and it has been noticed that those gall-stones which by their size must have been for long in close contact with the walls of the gall-bladder are more frequently crusted with this substance. (4) Although, no doubt, the chief conditions which lead to the formation of gall-stones are to be found in morbid changes in the chemical composition of the secreted bile, or the mucous surface of the gall-bladder; still, in some instances, deposition occurs simply from the substance being in excess, as, for instance, with the numerous small white polygonal stones of pure amorphous cholesterin, which are chiefly met with in young children and old persons. With regard to our treatment of the various conditions, we can readily understand that anything that leads to stasis of the bile in the biliary passages will lead to diminution of its alkalinity by the absorption of the soda salts, in which it is so rich, and I have little doubt that when the mucous membrane is the seat of a morbid catarrh, and the flow of bile checked, bacteria speedily develop and set up an acid fermentation. When we reflect on the part stasis plays in the formation of gall-stones it is not surprising to find that females suffer from this complaint in the proportion of three to two, with their habit of tight-lacing and sedentary habits. Our object then is to promote the due secretion of bile and prevent its accumulation in the reservoir—the gall-bladder. This is effected by judicious exercise—horse-riding—or any movements that bring the abdominal muscles into strong action—and massage from the flank toward the umbilicus. If we suspect bacterial fermentation, then we should administer sulpho-carbolate of soda (20 grain doses), and if the stasis is due to catarrh we must use the means that we shall consider further on, when considering that point. If our patient is a person who has habitually suffered from a sluggish liver, and we may reasonably suspect a deficient formation of the bile acids, we may increase their secretion by administering benzoate of soda, salicylate of soda, or chloride of ammonium, especially if the stones already passed are of a deep brown colour, rich in pigment, but comparatively poor in cholesterin. The treatment of the catarrh which affects the mucous membrane of the gall-bladder and the bile ducts, is the most important feature in preventing the formation of biliary concretions; since, not only does a catarrhal condition furnish the colloid

medium in which precipitated cholesterin and bile pigments are elaborated into gall-stones, but there is also little doubt that in certain catarrhs (sten bildenden catarrh) acid fermentation, probably of bacterial origin, of the bile takes place. Whilst long-continued catarrh of the finer tubes, such as occurs in the various forms of hepatitis, leads eventually to the diminution of the tauro and glycocholate acids in the bile. Catarrh of the bile ducts, moreover, is one of the direct causes of stasis in the flow of bile towards the intestine. Catarrh of the biliary passages may arise from exposure to cold and damp. Thus, I have found that quite 50 per cent. of the cases under my observation have come from the east coast, Lincolnshire furnishing a goodly proportion. The bleak country between Wolverhampton and Stafford also furnish a high percentage, and also Wales, which I attribute to the damp of the valleys. Gouty tendencies also furnish a catarrh that is highly favourable to the development of biliary concretions; whilst any disease of the liver causing obstruction of the portal circulation is sure to cause catarrh. With these indications before us, we are better able to devise means for counteraction of its ill effects. Should the patient come from a cold and damp district, change to a warmer and more sheltered climate is the first obvious consideration, whilst it is important to give directions that the subsoil drainage of the house should be attended to before the patient's return. The treatment of the catarrh itself is best commenced by the use at night of linseed (6 parts) mustard (1 part) poultices, a thin layer of cotton wool being worn over the hypochondriac regions during the day. By degrees the poultices should be exchanged for warm compresses, which finally should be applied cold; since the continued use of cold compresses undoubtedly hardens an individual who is unusually susceptible to cold. The patient should be always clothed in flannel, and should be careful about wet feet and damp clothes. The persistent use of Carlsbad salts, one teaspoonful before breakfast in a tumbler of hot water every other morning greatly aids in emptying the portal vessels and diminishing catarrhal action; it also causes, after a time, the appearance of a considerable amount of mucus in the stools. Table waters should be used, those rich in alkaline chlorides being most distinctly serviceable, as Contrexeville, Kronenquelle. The diet should be plain, and restricted as regards sugar and certain fats. The objection, however, to the use of fat has been carried to an

extreme point. I usually allow a certain amount of cooked fat, such as toasted rasher of bacon (thus free from grease) and the fat of the ordinary joint, but I forbid the use of all raw fats, as butter and cream. The bread should be stale or toasted, plenty of green vegetables should be taken, and cooked but not raw fruits. With regard to therapeutic treatment there are many drugs that are serviceable in catarrh of mucous membranes, but there is no class of drugs more effective than the various turpentine. We know from experience of their action on other mucous membranes, especially the urinary and pulmonary, how speedily a thick and viscid mucous discharge becomes thin and pituitous under their administration. Their value as regards the treatment of gall-stones was recognised by the older physicians, and the celebrated elixir of Durant was composed of a mixture of turpentine and æther. Turpentine, too, as I have shown,* possesses other qualities that prove valuable in the treatment of gall-stones. It has a distinctly expellant effect; no doubt, by stimulating the organic muscular fibres of the gall-bladder and ducts. It also increases the secretion of bile, and has a decided antiseptic action in arresting decomposition of that fluid. When given for a length of time it certainly arrests the formation of "recurrent" gall-stones; either by expelling precipitated cholesterolin, mucus, and pigment before they have time to form a concretion; or else by preventing precipitation by its action on the bile and biliary passages. In one case a patient of the hospital had suffered for some months from the passage of "recurrent" gall-stones. From the time he began to take turpentine the attacks became less severe, with longer periods between, till they entirely ceased. In another case a gentleman, who for three years had passed more than 100 calculi, and who, when he first began with turpentine, had just passed a stone, since then, now more than five years, has not passed another. By my advice he still takes, three or four times a year, a few doses of turpentine as a prophylactic. This is a measure that I usually insist on, even in cases where no stones are passed. Turpentine in cases where there is either chronic catarrh of the ducts, or perhaps malignant disease of the liver, often does good. In a case, recently sent me by Dr. Davies, of jaundice, attended with colicky pains and constant nausea, great improvement followed as far as those symptoms were

concerned after the administration of turpentine. The best method of administering it is as an emulsion, thus:—

| | | |
|-------------------------|-----|-------|
| R. Ol. Terebinthinæ ... | ... | ℥v |
| Mist. Acaciæ ... | ... | ℥ss |
| Sodæ Sulpho-Carb.... | ... | gr.xx |
| Spt. Ætheris Chlorici | ... | ℥xv |
| Aquæ Menth. Pip. ... | | ad ℥j |

Fiat haust: ter in die sumend.

If, however, this is not tolerated by the stomach, it may be given in capsules. It should not be given for the first time during an *acute attack of colic*, until we have watched the character of the attacks for some time, and have formed a reasonable supposition that a little more expulsive effort would be followed by the passage of the concretion into the intestine. Even then we should feel our way gently, and only commence with it after a paroxysm has subsided. In cases of *indefinite biliary colic*, it is often serviceable in provoking an attack of sufficient severity, as to give greater certainty to our diagnosis, and it may be continued for some little time if we have a reasonable hope that a stone may pass; but should no progress be made, say within three weeks, then the treatment should not be persevered with. In cases, however, of "recurrent" gall-stones it should be continued so long as stones continue to be passed, and if the tendency to cholelithiasis be strongly marked, turpentine should be given periodically, three or four times a year in small doses, so as to bring away any calculous deposit in its inception.

To recapitulate, our efforts for the medical relief of a patient suffering from gall-stones may be thus briefly indicated:—

(a) In acute attacks of colic, to aid gently but firmly the efforts for spontaneous expulsion, to clear the passage in front of the concretion of all obstacles, in the shape of spasm or swollen mucous membrane, or pressure from loaded and flatulent intestines; whilst aiding the pressure from behind by stimulating the muscular fibres of the gall-bladder and ducts, increasing the flow of bile, and perhaps by massage in the right direction.

(b) In indefinite attacks of colic to endeavour to ascertain its true character, and then, if reasonably sure that they are due to a concretion, to make an attempt to strengthen the efforts at expulsion.

(c) In cases of "recurrent" calculi, or when there is a strong predisposition to cholelithiasis, to prevent the precipitation of the calculous material by preventing chemical changes in the bile itself,

* "Lancet," December 5th, 1891. Turpentine in the Treatment of Gall-stones and Renal Calculi.

and rendering the mucous surface of the gall-bladder and ducts, which furnishes the colloid material of the concretions, healthy. And, if in spite of these measures, some precipitation does occur, to endeavour to ensure the expulsion of such, whilst still in their inception, and not permit them to develop into definite concretions.

A CLINICAL LECTURE ON INDICATIONS FOR SURGICAL INTERFERENCE IN CASES OF GALL-STONES.

Delivered before the Students of the Yorkshire College

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GENTLEMEN,—You have had many opportunities of observing the different ailments produced by gall-stones, and you will have noticed that a number of the cases have been transferred from the medical wards, where they have undergone various forms of medical treatment; other cases you will have noticed have been directly admitted to the surgical wards, as medical treatment had been fully tried, over a lengthened period, before the patients were sent to the infirmary.

Although you have seen these cases in the surgical wards, it would be wrong for you to draw the conclusion that no benefit can be derived in cholelithiasis from medical treatment, although in a great number of the cases your conclusions would, I feel sure, be accurate. For medical treatment to be successful in cholelithiasis, it must be undertaken in quite an early stage, when, by careful dieting, by regular exercise, by the judicious administration of diluents, by the occasional use of purgatives, and by the exhibition of sedatives as required, much may be done to expedite the passage of small calculi, to prevent the formation of others, and possibly to diminish the rate of increase in those already formed.

Medical treatment, however, need not concern us further at present, as it will be more fully considered by a medical colleague, but I should like to point out in what cases it may be advisable to employ surgical measures.

One of the most frequent ailments which those engaged in general practice are called on to treat is known as "spasms," by which term is meant the acute, agonising pain, starting suddenly at the pit of the stomach, or on the right side of the abdomen, and radiating thence to the right shoulder. The attacks last a variable time, and terminate in flatulent eructations, or in vomiting. As often as not there is no apparent cause, while at other times exertion or some error in diet will be blamed. Now, although these attacks may come on through flatulency or from indigestible food, in by far the greater number of cases they are due to gall-stones. If the attacks are accompanied by pain in the left shoulder it usually points to some affection of the stomach rather than of the gall-bladder, but not certainly; as on three occasions I have operated in such cases and found the stomach fixed to the gall-bladder by adhesions set up by local peritonitis starting over the bile passages. It is by no means necessary that the attacks should be followed by jaundice in order that the diagnosis of gall-stones may be made, for in by far the greater number of cases the spasms are dependent on concretions in the gall-bladder or in the cystic duct, and the gall-stones do not succeed in reaching the common duct; but should they do so, an attack of jaundice will follow, and if the motions be carefully observed, one or more gall-stones may be found in the fæces. It is important that you should be able to tell your patients how to discover gall-stones, and perhaps the best way is to recommend that the stool shall be passed into a jar in 50 carbolic solution; that it shall then be stirred well round and passed through a sieve with a fairly fine mesh, when any solid particles will remain behind. If a gall-stone be discovered and be found to be faceted you may usually make the prognosis that the attack will be repeated, whereas if the stone be rounded it is just possible that the past attack may be the last, if due precaution as to diet, etc., be adopted in order to prevent the formation of further calculi. If, after a course of medical treatment, the attacks persist, you should explain to your patient the condition and the danger that may ensue, and you may safely say that cholecystotomy, skilfully performed, will both rid the patient of the disease and be attended with very little risk. It has been estimated that 95 per cent. of cholecystotomies for gall-stones will recover; but, arguing from my own statistics, I think this is an under-estimate, as out of about forty operations

performed for gall-stones, in the absence of malignant disease, I have not lost a single case as the result of the operation. Cholecystotomy, however, is not by any means the easy operation which those who have not seen it would suppose, for it is an undoubted fact that the greater number of attacks of cholelithiasis are accompanied by local peritonitis, which leads to matting in the neighbourhood of the gall-bladder, so that not unfrequently the gall-bladder is shrunken and hidden away under the adherent viscera, which must be separated before the gall-bladder can be opened. It is not then always an easy matter, after removing the gall-stones, to suture the opening in the gall-bladder to the abdominal wall, or to the parietal peritoneum, but, fortunately, if this cannot be done, a drainage tube, placed in the gall-bladder, and brought to the surface, will usually prevent extravasation of the bile. If, however, it be possible to suture the parietal peritoneum to the edges of the incision in the bladder, it should be done, and when the bladder is forming a tumour it is easily effected.

Instead of draining the gall-bladder, the so-called "ideal operation," in which the incision in the gall-bladder is immediately sutured and the viscus returned, has been advocated by Sir Spencer Wells and performed by some surgeons, notably by Küster; but in order that this method may be safely carried out, it is most important to be absolutely certain that the ducts have been thoroughly cleared, and this can only be ascertained by catheterising the ducts or by forcibly syringing fluid through the gall-bladder along the ducts and finding that it passes into the duodenum. I usually prefer to drain, not because, as has been suggested by a very eminent surgeon, it would be easier to open the gall-bladder again should there be a relapse, but because drainage of the diseased viscus is beneficial in curing the catarrh, which probably always co-exists with cholelithiasis. The drainage tube is generally removed in a few days, and the opening, as a rule, closes within the month. In order to prevent the formation of a biliary fistula, I prefer to suture the edge of the gall-bladder to the aponeurosis and to the skin, thus having a layer of tissue between the external opening and the wound in the gall-bladder.

In a patient now in No. 8 ward, who had been continually jaundiced for about three months, and on whom you saw me operate a fortnight ago, I removed completely the gall-bladder, an operation known as cholecystotomy. I did this because I

found the bladder much diseased and shrunken, and filled with muco-pus, and because it was so friable that in separating it from the adjacent viscera I unavoidably tore it in two places. After removing the gall-bladder I was able to clear the common duct by crushing the concretions, after which bile passed into the bowel, as was shown in the next few hours, when the patient vomited after coming round from the anæsthetic. The jaundice is now passing away, and the stools are gaining their normal colour. I have on two other occasions removed the gall-bladder because of a mucous fistula dependent on stricture of the cystic duct, and in all the cases the patients have recovered. Ordinarily, however, I decidedly prefer cholecystotomy to cholecystectomy, and only adopt the latter in exceptional cases like those mentioned.

Cholecystectomy may also be called for in malignant disease of the gall-bladder, but in such cases the operation will be seldom feasible, as the disease has usually involved other viscera in the neighbourhood. In all the cases I have explored with the intention of resecting the gall-bladder for cancer, I have found removal to be impracticable. Where one of the attacks of spasms is followed by jaundice which does not pass off, it is safe to argue that a stone has become impacted in the common duct, and if the jaundice persist the patient is placed in a much more serious position than if the concretions had been extracted before the supervention of the icterus; first of all, because persistent jaundice is dangerous in itself from its deleterious influence on nutrition, and its destructive effects on the blood; secondly, because operations for the removal of gall-stones from the common duct are much more difficult than when the concretions are in the cystic duct or gall-bladder; and, thirdly, because operations in the presence of persistent jaundice are attended with great danger. Fortunately, however, these difficulties and dangers may usually be overcome, and not unfrequently the gall-stones may be crushed between the finger and thumb as they lie in the common duct, or if this be found to be impossible, the crushing may sometimes be effected by means of forceps, the blades of which have been covered by india-rubber; but should this be found to be impossible, a fine needle may be pushed through the wall of the common duct and made to pierce the gall-stone, which will then sometimes break into fragments more easily. If, however, these means, known as cholelithotrixy, fail, the duct may be

incised, the operation known as choledochotomy, being performed. It consists in incising the duct sufficiently to permit the extraction of the stone, the walls of the duct being then carefully sutured. The suturing of the ducts, which is by no means an easy operation, can be simplified by using a rectangular needle similar to that employed for the operation of a cleft palate. After choledochotomy it is always wise to insert a drainage tube to provide against leakage.

In some cases it may be found imprudent to incise the common duct, and impossible to otherwise clear it. In such cases cholecystenterostomy may be performed, the gall-bladder being opened and sutured to an opening in the duodenum, or if that be found to be impracticable, to the hepatic flexure of the colon. This has usually been accomplished by a double row of sutures, and in the first case in which I performed the operation, I employed this method, but in my last case I used a decalcified bone tube, shaped like a cotton hobbin, connecting the two visceral walls together around the tube by means of two continuous sutures, one marginal, bringing together the mucous surfaces, the other, one-third of an inch from the margin of the openings, bringing together the serous surfaces. This method not only shortens the operation, but, to my mind, renders it much more safe.

In very rare cases the common duct, obstructed near its orifice in the duodenum, dilates to such an extent, that it may be easier to connect it and the duodenum directly. This operation is called choledochenterostomy, and although the name is a long one, it is certainly expressive. The operation has been successfully performed on one occasion by Dr. Sprengel, but the condition calling for it must be a very rare one, as, for instance, irremovable obstruction of the termination, with dilatation of the commencement of the common duct and obliteration of the gall-bladder.

In certain cases a biliary fistula may follow the operation of cholecystotomy, owing to stricture of the common duct, as in one of my early cases, where I performed cholecystenterostomy with complete success, the patient being now in good health; or the fistula may depend on a gall-stone being left in the duct, as in another of my cases, where I injected a solution of æther and turpentine, which either dissolved or forced on the obstruction, as the fistula closed in a few days, and the patient is now quite well. If syringing with a sol-

vent solution or with hot water should not succeed, another operation may be called for, when the obstruction must be dealt with by one of the methods formerly mentioned.

A real difficulty in all cases of persistent jaundice, supposed to be due to gall-stones, is to negative the presence of malignant disease. As a rule, however, where the jaundice is dependent on gall-stones, there will be a history of repeated attacks of spasms, and of one more prolonged than usual, followed by jaundice, after which the pain will probably occur from time to time, and will be associated with ague-like attacks. There will probably be an absence of enlargement of the gall-bladder and no evidence of hard nodules on the liver, which may, however, and probably will, be enlarged, from biliary congestion.

At times the diagnosis will be impossible without an exploratory operation, which may be undertaken in any doubtful case, if the patient be in a fit condition to bear the procedure. The operation need not be a severe or a long one; a small incision just large enough to admit the finger will enable the surgeon to get all needful information, and then if gall-stones be present, the incision can be prolonged and the operation pursued, but if malignant disease be found, the opening can be closed without further delay, unless it is thought wise to establish a biliary fistula for the purpose of relieving the jaundice.

Wherever there is malignant disease associated with jaundice, the increased danger of any operation must be borne in mind, as such patients bear operation badly, the chief dangers being from shock and hæmorrhage.

The following would seem to me to be the indications for surgical interference in cholelithiasis:—

(a) Repeated attacks of biliary colic which, not yielding to medical treatment, are wearing out the patient's strength.

(b) Suppuration in the neighbourhood of the gall-bladder as in empyema of the gall-bladder, or in abscess of the liver, associated with gall-stones.

(c) Dropsy of the gall-bladder.

(d) Obstructive jaundice, where there is reason to think that the common duct is occluded by gall-stones.

(e) Acute peritonitis starting in the region of the gall-bladder, where the previous history of the patient is suggestive of gall-stones.

And lastly (f) Intestinal obstruction dependent on occlusion by a large biliary concretion.

A CLINICAL LECTURE ON THE DIAGNOSIS OF CHRONIC ABDOMINAL PAIN IN WOMEN.

Delivered at the London Hospital

By G. E. HERMAN, M.B. Lond., F.R.C.P.

Obstetric Physician to the Hospital, etc.

PELVIC pain commonly leads women to think there is something the matter with the womb. Usually, physical examination is needed if the cause of pain is to be found out as exactly as possible. But (1) Examination is not always permitted. (2) Sometimes it is better to guess at the condition than to insist on local examination. It may therefore be useful to consider the points which help us to form an opinion without vaginal examination.

I shall enumerate the different kinds of chronic pain that may make women think the womb is diseased, and point out their characteristics: again repeating that diagnosis without examination is only guessing. By "chronic" I mean pain that long persists or often recurs, and is not accompanied by acute febrile symptoms.

1. First, there is the pain from *tired and stretched muscular and fibrous structures*. This is common in women because their muscles are weak, their nerves are sensitive, and they are often anæmic, and therefore nerves and muscles are badly nourished. The back aches from tiring of the muscles which keep the body erect. The pelvic floor aches from fatigue of supporting the weight of the abdominal contents. This latter pain is felt in the abdomen.

Pain of this kind is of a dull, aching character, not severe, but wearying the patient by its persistence. It is not definitely localised, being referred vaguely to the back and lower abdomen and down the thighs. It is relieved at once, and soon removed, by lying down. Ask the patient whether, on waking in the morning after a good night's rest, she is quite free from pain. The answer of patients who have this kind of pain only is invariably "Yes." But remember that the presence of this pain does not imply the absence of every other pain; and therefore a patient may have this pain and other kinds of pain as well, and she may then not be freed from pain by lying down.

This is the characteristic pain of uterine displacements. It is for the relief of this kind of pain that you will find pessaries valuable. It is only pain of this kind that pessaries remove.

This pain depends partly on the amount of stretching of the tissues, partly on the state of the patient's nervous system. Hence, you will find that if the patient is sleeping badly, is anæmic, or is getting thin, it gets worse; and that if she rests well, and takes plenty of food, and the tone of the nervous system improves, the pain gets better, without any appreciable change in the local condition.

2. Pain due to *chronic pelvic inflammation*: to chronic metritis, inflammation of the tubes and ovaries, perimetritis, congestion of the uterus from backward displacement.

This pain, like that first described, is referred to the lower abdomen and back, and sometimes down the thighs. It is generally a continuous, dull, aching pain, sometimes described as throbbing. It is remittent, severe pain alternating with slight, the attacks of pain being much longer than the duration of a uterine contraction. It is lessened, but not entirely removed by lying down. It is more definitely localised than the former kind. If the ovary be the seat of pain, the patient will point to a spot about two inches internal to the anterior superior iliac spine. If the uterus be painful, she will refer it to the hypogastrium. In backward displacements of the uterus, to the sacrum. This pain is aggravated by alcohol, by the approach of menstruation, and by sexual intercourse.

3. Pain due to *uterine contraction*. This is referred to the lower abdomen and back. Unlike the preceding forms, it is paroxysmal, each attack of pain lasting a minute or more, and being preceded and followed by freedom from pain. It differs also in that it is not at all relieved by recumbency, but on the contrary, is often said to be worse when the patient is lying, because a recumbent patient is inactive, and pays more attention to what she feels. Pain of this kind is often felt with fibroids. This is the true dysmenorrhœal pain.

The foregoing kinds of pain are all due to *disease in the pelvis*. But the patient may refer pain to the pelvis, which has its real cause quite outside it.

The pain may be *renal*. This is identified by the seat of the pain, which is over the kidney, although it often radiates over the abdomen and down the thigh. Further, by there being in the diseases of the kidney which cause pain, tenderness on pressure

over the kidney; and the kidney may be swollen. There will also be vesical irritability, and probably pain in micturition. But these latter symptoms are also met with in most chronic pelvic inflammations.

The diseases of the kidney which cause pain are—

(a) Renal calculus: in which the pain is paroxysmal and exceedingly severe, often causing vomiting. The urine will probably contain blood and crystals. If the calculus has not passed, but is stopping up the ureter, the kidney will be swollen and tender.

(b) Inflammation of ureter from other causes: a rare disease, in which the symptoms will be much the same as in calculus.

(c) Pyelitis.

(d) Malignant disease of kidney.

In these conditions the kidney will be swollen and tender.

(e) Movable kidney. This sometimes causes no symptoms at all. Sometimes it causes slight aching pain in the renal region, and there is generally pain in the renal region during menstruation, if at no other time. Sometimes there are attacks of "strangulation" of the kidney. This means, that the vessels get kinked, and congestion of the kidney is the result. This is often the result of violent exertion or rapid movement. There is sudden, severe pain in the abdomen, with distension and tenderness. With this is faintness, giddiness, sweating, small rapid pulse, nausea or vomiting. The urine is scanty, high coloured, often bloody. There is little or no fever. The kidney is swollen, and so tender that it can scarcely be examined. The symptoms reach their height at about from the fourth to the sixth day. One of the first signs of recovery is the copious excretion of urine of low specific gravity. The symptoms subside in from one to two weeks.

Dr. Matthews Duncan described what he called "*aching kidney*:" pain in the kidney, independent of pyelitis, stone, mobility, or other disease in the kidney. I have seen cases in which there was renal pain, without physical signs of disease, in young women who were accustomed to drink very little fluid, which has been cured by making the patient drink plenty of water. It has seemed to me an explanation that the pain has been due to irritation of the kidney by deposits from too concentrated urine: a condition, in fact, of slight gravel, differing only from what is known as gravel in the fact that the urine (or at least some specimens), does not deposit crystals after it is passed.

Dr. Duncan regarded aching kidney as a neuralgia of the kidney. This may be so, but it is an explanation only to be accepted when everything else has been excluded.

Chronic nephritis sometimes makes the kidneys painful. This is identified by the albumen and casts in the urine.

The pain may be due to *disease of the stomach*: atonic dyspepsia, chronic gastritis, gastralgia, gastric ulcer, cancer of stomach, or other rarer conditions. In these diseases the pain is in some way dependent upon food. In gastralgia it is relieved by food; in the other conditions, produced or aggravated by food, particularly solid food. Uterine pain has no necessary or constant relation to taking food. The patient may possibly think it has, but close observation will show no concomitant variation.

The pain may be *in the bowel*: that is, one of the kinds of colic—painful peristaltic action. Colic may arise from various causes. (a) An indigestible meal: if from this cause, it will be of short duration, ceasing when the offending matter has been got rid of. (b) Constipation, the pain being in the attempt of the bowel to get rid of hard fecal lumps. (c) Distension of the bowel with flatus, due to decomposition of its contents. The conditions which make the intestinal juices unable to digest food without the copious evolution of gas are in women very common, and often very persistent and hard to cure. (d) Nervous causes: anxiety, fear, distress of mind, not uncommonly produce painful contractions of the bowel. (e) Lastly, there is lead colic, recognised by the well-known blue line on the gums. Copper poisoning also produces colic, but this is rare in ordinary practice.

The pain of *intestinal colic* is distinguished from pain due to disease of the uterus or its appendages by the following features:—

1. It is a pain which shifts its seat. It rolls about the belly. Sometimes you may get a patient who, when you ask her to point out the seat of pain, will indicate the whole course of the ascending transverse and descending colon. Pain of uterine or ovarian origin is definitely in the pelvis.

2. It is not relieved by position. The pain caused by displacements is removed, and that of uterine or ovarian congestion, or of peritonitis, is relieved by recumbency, but produced or aggravated by walking about; which, on the contrary, by distracting the patient's attention, causes the pain of colic to be less felt.

3. If pressure on the abdomen has any effect on the pain of colic, it is to relieve it. Patients with inflammatory pain cannot bear firm pressure, and on the pain of displacements it has no influence.

4. It is relieved by the passage of flatus, or by the free emptying of the bowel: acts which have no influence on the other kinds of pain.

In some cases there is a pain which combines the characters of both pelvic and bowel pain. Pelvic peritonitis may lead to adhesions about the sigmoid flexure. During the propulsion of faecal masses along the colon, these adhesions are pulled upon, and thus there is pain *just before* defaecation. There will also be symptoms, or a history of pelvic peritonitis, and there will be physical signs of this disease. But the pain will resemble colic in being distinctly dependent upon defaecation; and in being pain which shifts its seat as the contents of the bowel move onward, although it may be to a degree too little for the patient to recognise and describe.

The pain of *biliary colic* can hardly be taken for pain due to pelvic disease. Its exceeding severity, sudden onset, and sudden cessation when the stone has passed, its being situated in the epigastrium, and accompanied not only by nausea and vomiting, but by jaundice: all these features mark it off from pain of uterine or ovarian origin.

Some pains felt in the abdomen are *neuralgic*. This kind of pain in an external part is known by being along the course of a nerve, and (in about half the cases) by the presence of tenderness at the spots where the nerve becomes superficial. In the case of visceral neuralgias we have not these marks to guide us, because the viscera are mostly supplied from nerve plexuses which we cannot get at.

In the diagnosis of visceral neuralgias, we rely mainly on the following features:—

1. The absence of signs of disease in the painful part; and, excepting when the pain is present, of any impairment of its function.

2. The personal peculiarities of the patient: her physique, temperament, and habits. The class of patients who suffer from neuralgic pains are the anæmic and the nervous.

3. The character of the pain. This is usually intermittent or remittent: it occurs in paroxysms, alternating with intervals of freedom from pain or of only slight pain. It may, however, be constant, not paroxysmal, and therefore this feature, by itself, must not be relied upon. It is often combined with, or alternates with, pain of similar character in other parts.

4. The effect of treatment. Neuralgic pains vary with the patient's health: getting worse when this is depressed, better under tonic treatment: but this is not peculiar to neuralgia. Neuralgic pain is almost always relieved by alcohol. It is not relieved by position. Inflammatory pelvic pain is aggravated by alcohol, and relieved by recumbency.

The patients subject to neuralgic pains are—

1. Those whose nervous symptoms have been weakened by anæmia: the brain and nerves not being nourished by healthy blood.

2. Patients worn out by want of sleep.

3. Persons of originally neurotic temperament: inherited or acquired, generally both inherited, and developed by education. A "neurotic temperament" means a too sensitive nervous system. A sensitive nervous system usually goes with a weak muscular system.

Dr. Clifford Allbutt* has remarked that in social life we find two opposite types: those who are observant, but not imaginative; and those who are imaginative, but not observant. Sometimes, though rarely, great powers of observation and imagination are united in the same person: and then we have great genius, like Shakespeare or George Eliot.

Among neurotic patients these two forms occur: the indolent and introspective, who are always thinking about themselves, and the active and observant, who think of others. Persons of the introspective habit are often fat, and are easily tempted to alcoholic excess. They are often sending for the doctor; and what they need is rousing and occupation. Dr. Allbutt calls them "vaporous neuralgics." Persons of the observant type are vivacious and industrious; generally thin: bad sleepers, uncertain eaters. They are quick, irritable, sensitive, clever. Such persons do not want rousing: but will not tolerate soothing or restrictions. Dr. Allbutt calls them "irritable neuralgics," as opposed to the "vaporous neuralgics." The great things in the treatment of these persons is a generous diet and lessened labour. Such persons are benefited by arsenic. I have recognised the types described by Dr. Allbutt.

Neuralgic pain may complicate pain of other kinds, and then diagnosis is very difficult, but extremely important. Pain due to local disease is cured if the local disease is cured; but if the pain is neuralgic, local treatment will probably be a failure.

* Liverpool and Manchester Reports, 1873, p. 107.

CLINICAL REMARKS

ON

IRITIS AND ITS TREATMENT.

Delivered at University College Hospital on Oct. 27th, 1892,

By JOHN TWEEDY, F.R.C.S. Eng.

GENTLEMEN,—This man, who is over 70 years of age, is suffering from the effects of iritis. He came to the hospital a few weeks ago on account of impairment of sight, and we found that he had both pupils blocked with lymph and complete adhesion of the sphincter border of each iris to the anterior capsule of the lens (posterior synechia). Since he has been in the hospital I have done iridectomy in both eyes, partly to improve the sight, partly to lessen the damage done by the iritis, and partly in the hope of preventing further deterioration of the eyes. Now what has happened in this case almost invariably happens when iritis is not recognised in its early stages, or when it is negligently or improperly treated. You should therefore familiarise yourselves with the various phases and effects of iritis, both for the purposes of diagnosis and of treatment.

The history of this case is instructive. Until Christmas last the man enjoyed good sight. At that time he had an attack of inflammation of the eyes; the eye-balls were bloodshot and painful, and there was some pain in the brows and temples. In the course of two or three days the pain subsided, but the sight had become greatly impaired. The man had sought medical advice and had used a lotion, and later he saw another medical man, who told him that he had cataracts. This opinion was erroneous, for the lenses are practically clear; the lymph in the pupil had been mistaken for opacity of the crystalline lens.

Anatomically, iritis may present itself in one of three forms—viz., serous, plastic, and parenchymatous, or in some combination of them, and these various forms may occur in one of two modes—viz., acute and chronic. Acute iritis is usually accompanied by symptoms so urgent and so severe that medical advice is sought early, and suitable treatment being employed recovery takes place with little, if any, permanent damage. It is the milder forms, and especially the slighter forms of chronic iritis that are so apt to be overlooked and mistaken for a mere "cold" in the eye. The symptoms are often vague and ill-defined. The pain is not very great, and the redness almost inappreciable. Not

unfrequently it is only on account of the subsequent impairment of sight that advice is sought for. Indeed, some cases of chronic iritis are so unobtrusive that they have been called "quiet iritis," and furnish some of the most intractable and difficult complications we are called upon to deal with.

It is a time-honoured maxim that diagnosis must precede treatment, and with respect to no class of diseases is this more true than diseases of the eye, and especially iritis. By recognising iritis in its earlier stages we may not only cut the disease short, but prevent those various physical alterations and lesions which predispose to recurrences of inflammation as well as favour the development of grave sequelæ. No case of iritis ought to be overlooked, and with moderate care no case need be overlooked.

Now, what are the difficulties in diagnosis? A patient comes, say, complaining of pain in the eyes, brows, and cheeks, of photophobia and lachrymation. The eye-balls are blood-shot. The first point to determine is, what is the system of blood-vessels which gives the blood-shot appearance? Is the case one of simple conjunctivitis, or is there also inflammation of the cornea or of the iris? First, look for the seat of the maximum of injection. This is always nearest the most diseased area. If there be simple conjunctivitis the engorged vessels are limited to the conjunctiva, and you will find by drawing down the lower lid that the injection is most pronounced in the cul-de-sac of the conjunctiva and on the lid. Even when the "white" of the eye is red the injected vessels can be made to glide over the sclerotic, and the congestion diminishes as the vessels approach the corneal margin. But if there be concurrent disease either of the cornea or of the iris, a zone of injected episcleral vessels will be present immediately adjoining the corneal border (ciliary injection). This zone of ciliary injection should be looked for in every case of inflammation of the eye. If a circum-corneal zone of redness be present, we have next to determine whether it indicates disease of the cornea or of the iris. If it be the cornea there will be either dimness or roughness or irregularity of the surface, or unimpaired transparency from infiltration into the superficial layers or into the stroma, or from exudation on the posterior layer. If the iris be involved, its colour and lustre, and the shape, size, and reaction of the pupil will be altered. When there is pronounced *plastic* iritis, diagnosis is comparatively easy; the aqueous humour is more or less

turbid, the iris swollen, its lustre dimmed, its fibrillation obscured, and there is inflammatory exudation on the surface of the iris, or in its substance, or in the pupillary area, and the pupil is probably contracted and irregular. If the case should be one of *serous* iritis, the appearances are somewhat different; the anterior chamber is deeper than natural, the iris pushed back, the pupil semi-dilated, and there may be dots upon the posterior layer of the cornea (*keratitis punctata*).

The difficulties of diagnosis are greater when the inflammation is but slight. It is precisely in these cases that we need to exercise the greatest care and circumspection. You should therefore make a practice of specially examining the iris in every case of inflammation of the eye-ball, however simple its character may seem. If you do this, you will often be able to anticipate the outbreak of iritis, or if this have occurred, to attack it in its earliest manifestations, which are usually readily amenable to treatment.

What are the points to be looked for? I have already indicated them, but for the sake of emphasis, will repeat: first, observe the colour of the iris; next, its lustre, and then the size and shape of the pupil, and lastly, its re-action. Compared with a healthy iris, a congested one, and still more, one that is inflamed, undergoes a change of colour; its lustre is dimmed, the pupil is smaller (except as just stated in *serous* iritis), and it contracts more promptly and dilates more slowly than in health. In addition to these physical signs, diagnostic aid is often afforded by inquiries into the seat and character of the pain complained of. In conjunctivitis the pain is of a smarting and burning character, and accompanied by a feeling of grit or sand within the lids; in iritis the pain is of a shooting, aching, throbbing or neuralgic character, and is often referred to the brow, cheek-bone, and down the side of the nose.

If you are satisfied that the iris is inflamed, whatever else there may be, you must endeavour by early and energetic treatment, to prevent the formation of adhesions of the iris to the capsule of the lens. In the management of all inflammatory affections of the eye, remember that the two chief factors in the healthy nutrition of the eyes are, first, the integrity of the ciliary body, and, second, patency of the angle of the anterior chamber. Neither of these conditions can be ensured if posterior synechia occur.

The ciliary body is the chief nutritive organ of

the eye. It secretes and elaborates the fluids which nourish the vitreous, the lens, and the posterior layers of the cornea, and if it be implicated by disease the nutrition of these dependent structures must suffer more or less. The fluids which are secreted by the ciliary body ultimately pass forward into the posterior chamber of the eye through the pupil into the anterior chamber, whence they make their way through the delicate lymphatic meshes (spaces of Fontana) situated at the angle of the anterior chamber between the iris and the cornea. This lymphatic system communicates with the canal of Schlemm, which in its turn is in communication with the anterior ciliary veins. The angle of the anterior chamber, therefore, is the drainage system of, at least, the anterior segment of the eye. Now if this angle be obliterated either by apposition or adhesion of the iris to the cornea, or by being occupied by inflammatory exudation, the conditions of healthy nutrition are destroyed. If the ciliary body continue to secrete its nutritive fluids, accumulation must take place if elimination be in any great degree checked. The vitreous humour will become surcharged with fluids, and the eye-ball becomes hard (*glaucomatous*). Meanwhile, the proper elements of the vitreous tissue are pressed upon, and if there be in addition any admixture of inflammatory exudation the vitreous becomes more or less hazy, and may ultimately undergo shrinkage and give rise to detachment of the retina.

You will readily understand how these contingencies may arise in every case of untreated or ill-treated iritis. The ciliary body being in direct textural continuity with the iris is therefore prone to participate in iritis. On the other hand, adhesions may occur between the base of the iris and the posterior layer of the cornea, thereby obliterating the angle of the anterior chamber and inducing the anatomical basis of glaucoma. The formation of posterior synechia may bring about similar results by destroying the communication between the posterior and anterior chambers of the eye, for if this communication be stopped fluid accumulates behind the iris, pushing it forward and giving rise to what is called a "ballooned" iris, or iris *bombé*, which in its turn may lead to closure of the angle of the anterior chamber and subsequent glaucoma.

Having diagnosed iritis, how shall we proceed? In the treatment of iritis we must follow not only the general indications but also and more particularly the special ones. The *general* indications are to

relieve pain and other urgent symptoms, to arrest the morbid processes, to treat and as far as practicable remove all constitutional and local causes, and to endeavour to bring about recovery as quickly, pleasantly, and safely as possible. The *special* indications are to obtain dilatation of the pupil in order to prevent the formation of adhesions of the iris to the capsule of the lens, or to break down any adhesions that may have formed; to preserve, if possible, the integrity of the ciliary body, and to maintain the efficiency of the drainage apparatus at the angle of the anterior chamber. The special indications are always the most urgent and most imperative. General remedies are valuable auxiliaries in the treatment of iritis, and should not be neglected, but they are of little avail unless local measures are intelligently and skillfully employed.

The first thing to be done is to get the pupil dilated as quickly and as fully as possible. For this purpose it is usual to employ a solution of sulphate of atropine, of the strength of about four grains to the ounce. Many other substances, such as duboisin, hyoscin, hyoscyamin, do as well as atropine, and are sometimes to be preferred. Atropine and most of the other mydriatics, are beneficial in iritis in many ways; they dilate the pupil, and thereby prevent or break down adhesions; they empty the engorged vessels of the inflamed iris, and by this means, as well as in other ways, control the inflammatory process; they relieve pain, and they keep the iris and the ciliary body at rest, as splints keep a broken bone or an inflamed joint at rest, and thereby facilitate repair. In a recent case of iritis a drop of atropine should be applied to the inside of the lower lids about every quarter of an hour for about two hours, and then about once every three or four hours, until the pupil is well dilated. If the pupil dilate moderately and circularly after a few applications the intervals should be prolonged, and the atropine used only often enough to maintain the dilatation. If no adhesions have formed, or if the adhesions be few and fragile, the pupil will soon dilate; but if the adhesions are many and strong, many hours, and even days, may elapse before appreciable dilatation takes place. Do not, therefore, be discouraged and discontinue the atropine because dilatation does not occur at once. In many cases the adhesions only give way during the processes of resolution and repair, but they will not give way even then unless the iris be kept under the influence of atropine.

Can we assist the action of atropine? Yes. In the earlier stages of acute iritis the free use of hot fomentations, or vapour, or dry heat, the application of two or three leeches to the inner angle of the lids, or of Heurteloup's artificial leech to the temple, or a free purge will sometimes assist the action of the atropine. In the later stages, mercurial inunction into the brow and temples, and small doses of mercury internally often acts similarly.

How long should atropine be used? The rule I generally follow is to use it until all the external redness has disappeared, and from ten days to a fortnight after. If it be stopped too soon there is a risk of relapse or early recurrence.

Unfortunately cases occasionally arise in which atropine is not tolerated. In some cases intense local inflammation of the lids sometimes occurs when atropine is applied. In such the lids should be washed two or three times a day with a warmed saturated solution of boric acid, or a weak solution of alum, or sulphate of zinc, or (if there be no corneal abrasion) of lead. Hyoscin, or duboisin, or some other mydriatic should be substituted for the atropine. More rarely another and more troublesome form of intolerance to atropine is manifested. In the woman you have just seen with chronic iritis three or four applications of the atropine produced great and persistent delirium. In such a case the only practicable course is to discontinue the atropine, and when the iritis has run its course to perform an early iridectomy if there be many adhesions.

Another difficulty sometimes arises in iritis. Occasionally when the eye is first seen, or, more rarely, in the course of the disease, the tension of the eye-ball is appreciably increased. We have then to decide whether the case is one of genuine glaucoma, or whether the hardness is only an accidental and transient phase of iritis. I would say that if there be clear evidence that the case was primarily simple iritis, and that the increased tension is an intercurrent symptom apparently dependent upon the presence of posterior synechia atropine should be used in spite of the hardness of the globe, though it should be used cautiously, and the eye kept under observation. In most cases the hardness will subside when the atropine has acted, either by breaking down some of the posterior synechiæ or in some other way relieving the inflammation. It is, I believe, a harmful procedure to use eserine or other myotic in such cases. Eserine is, of course, of great service

in reducing the hardness of the eye-ball of true glaucoma: but it is often worse than useless when employed to relieve the hardness occurring in the course of primary inflammation of the iris.

If in iritis increased tension persist, in spite of the use of atropine and other antiphlogistic measures, the anterior chamber should be tapped by means of a broad needle or a narrow knife inserted at the corneo-scleral margin. Paracentesis is especially indicated if the anterior chamber be deep, as in serous iritis, and if the aqueous humour be turbid. Letting out the inflammatory fluids often initiates resolution here, as it does in pleurisy, peritonitis, and other inflammations of serous sacs.

If high tension persist, in spite of treatment and in spite of paracentesis, an iridectomy should be done: though this operation should not be performed during the acute stages of inflammation, unless the indications be very urgent. On the other hand, if, as the result of the inflammation, the pupil is covered with lymph and the ring of the iris is adherent to the capsule of the lens, as in the old man you have just seen, the operation of iridectomy is required, not only to restore vision, but also to prevent the deteriorating effects of total posterior synechia, upon the vitreous and the lens, as well as to lessen the risks of recurrent inflammation.

I have dealt with the local treatment of iritis, but you must not infer that the treatment in all cases should be purely local. Local treatment is indispensable, but, as I have already stated, general remedies must be employed according to the special indications of each particular case, in accordance with the recognised principles and practice of general medicine and surgery.

FORMULÆ.

Chapped Hands. (*L'Union Médicale—Therapeut. Gazette*):

- R. Menthol. ... gr.xx
 Salol. ... gr.xxx
 Ol. Oliv. ... ʒss
 Lanolin ... ʒij
 M. Ft. unguent. Apply twice daily.

Myalgia. (*Philadelphia Med. News*):

- R. Ext. Cimifugæ Liq.
 Ext. Erythroxylī Fl.
 Tinct. Guaiaci Ammoniat. aa ʒj
 M. Take one teaspoonful three times a day.

Otalgia. (*Med. and Surg. Reporter*):

- R. *Chloral-camphor. ... 5 parts
 Glycerini ... 30 parts
 Ol. Amygdal. Dulc. ... 10 parts

Insert a piece of cotton wool, on which some of the above solution has been dropped, in the affected ear.

* Made by rubbing together in a warm mortar equal parts of chloral hydrate and flowers of camphor.

Liniment for Neuralgia. (*L'Union Médicale—Therapeut. Gazette*):

- R. Tinct. Opii ... ʒiss
 Chloroform. ... ʒvj
 Ether. Sulphur. ... ʒj
 Spt. Camphor. ... ʒiij
 M. Ft. liniment. Soak a small piece of flannel in the liniment, and apply over the painful part.

Erysipelas. (*La Independencia Médica*):

- R. Ichthyol.
 Lanolin ... aa partes æquales
 M. Ft. unguent. Apply the ointment to the affected part, and cover with salicylic acid gauze.

Ringworm. (*Shoemaker—Med. and Surg. Reporter*):

- R. Cupri Oleat. ... ʒss
 Adipis Benzoat... ʒj
 M. Ft. unguent.

Toothache due to Acute Pulpitis. (*L'Abeille Méd.*):

Thoroughly cleanse the cavity, and then insert a piece of cotton wool on which a few drops of either of the three following solutions have been poured:

- (1) R. Menthol ... gr.xxxvj
 Chloroform ... ʒj
 M.
 (2) R. Cocain. Hydrochlor. ... aa gr.iv
 Morph. Hydrochlor. ... aa gr.iv
 Creasote sufficient to make a paste of creamy consistency.
 (3) R. Morph. Sulphat. ... gr.ij
 Atropiæ Sulphat. ... gr.iss
 Aq. Destillat ... ʒj
 M.

THE SPAS AND BATHS OF THE UNITED KINGDOM AND EUROPE,

CLASSIFIED UNDER THE NAMES OF THE DISEASES FOR WHICH THEY ARE INDICATED IN TREATMENT.

THE object of this compilation is to enable the busy practitioner to ascertain quickly the principal Spas and Baths suitable to any particular disease. The list does not pretend to be exhaustive. So far as possible the alphabetical order of the names of diseases will be maintained from week to week, except where there is any special reason for altering it to suit the other contents of any weekly number. We shall be glad to receive any corrections or

additions for incorporating in the reprint to be published when the series is completed.

As a brief description of the nature of the waters they are classified into (1) saline or aperient, (2) alkaline or antacid, (3) indifferent or table waters, (4) and lastly, a class named after the most important constituent of the water, thus: Ferruginous, Sulphurous, Arsenical, etc.

Cholelithiasis—

| Name of Place. | Where Situated. | Height above Sea-level. | Nature of Water. | Best Time of Year for taking the "Cure." | *Distance in Hours from London. |
|-------------------------------|-------------------------------|-------------------------|--------------------------------|--|---------------------------------|
| Llandridnod | Radnor, Wales ..... | ..... | Saline-sulphurous... | Summer-Autumn | About 33 hours. |
| Carlsbad | Bohemia, Austria..... | 1214 feet | Alkali-saline | { 1st May-1st November ... } | |
| Contrexeville | Vosges, France | 1000 " | Alkaline | { 20th May-20th September ... } | " 19 " |
| Ems | Nassau, Germany..... | 291 " | Alkali-saline | May-October..... | " 26½ " |
| Homburg | { Hesse-Nassau, Germany | 600 " | Saline | June-October ... | " 29 " |
| Kronenquelle | Germany | 1250 " | { Sodio-lithiated-saline | Summer | " 26 " |
| Vals (Precieuses) | Ardèche, France | 2475 " | Alkali-saline | Summer-Autumn | |
| " (Sources Vives, 1 and 3) .. | " " | " " | Alkaline | " " | " 26 " |
| Vichy (Grande-Grille) .. | Allier, France | 733 " | Alkaline | Spring-Autumn... | " 19 " |
| " (Source Lardy) .. | " " | " " | Alkali-ferruginous... | " " | " 19 " |
| Vittel (Salt Spring) | Vosges, France | 1100 " | Alkaline | { 25th May-25th September ... } | " 19 " |

Chronic Inflammatory Glandular Enlargements—

| | | | | | |
|--------------------|------------------------------------|-----------|---------------------|--------------------------|-------------------|
| Woodhall Spa | Lincoln, England..... | ..... | Iodo-bromine-saline | { Spring, Summer, Autumn | } About 4½ hours. |
| Bex..... | { Near Lausanne, Switzerland | 1380 feet | Iodo-bromine-saline | Summer | |
| Durkheim..... | Germany ..... | ..... | Iodo-bromine-saline | " | " 28 " |
| Hall | Bohemia, Austria..... | 1200 feet | Iodo-bromine-saline | " | " 39 " |
| Kreuznach | { Rhen. Prussia, Germany | 285 " | Iodo-bromine-saline | May-October | " 20 " |

* For the information contained in this column we are indebted to Messrs. Cook & Sons, Tourist Agents.

THE CLINICAL JOURNAL.

WEDNESDAY, NOVEMBER 16, 1892.

A CLINICAL LECTURE

ON

A CASE OF BRONCHIECTASIS.

Delivered at St. Bartholomew's Hospital, by

Sir DYCE DUCKWORTH, M.D., LL.D.,

Physician to the Hospital.

GENTLEMEN,—The case we have to consider this afternoon is one of disease of the chest. F. W., a labourer, aged 19, admitted into Casualty Ward ten days ago.

The history which he gave was short and concise. He states that he was in good health until the beginning of this year. He then became troubled with a cough which varied in its severity, being sometimes worse, sometimes better. Toward the end of January he began to expectorate foetid sputa, and has continued to do so ever since. Such is the brief history.

Foetid expectoration from the lungs, excluding cancerous and syphilitic ulceration, is practically due to two causes: (1) Gangrene of the lung; (2) Cavity in the lung. We know from the history here that it could not be the former, as gangrene of the lung would not permit of a patient going about in the way this man did. It must, therefore, be a case of cavity in the lung. What are the causes which produce cavities in the lung? The most common are those produced by tuberculosis, called *vomica*; the less frequent, those produced as the result of dilatation of the bronchi, a condition known as *bronchiectasis*. In the case of *vomica*, these occur chiefly in the upper part of the lung, and are not, as a rule, accompanied by foetid expectoration. In the present case under consideration, the cavity or cavities are situated near the centre of the lung, and are accompanied by profuse foetid expectoration; facts which are evidence against *vomica* and in favour of *bronchiectasis*. The patient's appearance and history are also against the presumption of tubercle. It, therefore, brings us to this point as regards the patient: he has a cavity or cavities in the lung which the evidence, so far as we have gone, inclines us to regard rather as of bronchiectatic, and not of tubercular origin.

It is interesting to know what our predecessors

would have thought of a case of this kind. In the days before physical signs were recognized, the older physicians were sometimes able to distinguish these cases from the commoner ones of tubercular phthisis, and they believed that the bronchi rather than the pulmonary parenchyma were involved, describing the disease as "bronchial phthisis," a term to which there can be no very strong objection.

Before going any further, let us examine the patient. The first fact we learn by looking at him is that he carries a spittoon with him, which is in continual request. From this we assume that there is profuse expectoration. He is a fairly well-grown youth, and his nutrition is fairly good. On looking at his hands, we can tell that some time has elapsed since he performed hard manual work, for they are soft. We see that the finger-ends are clubbed, and the nails incurved. The ends of the toes are the same, and I would here observe that what we term clubbing may occur at any distal point of the body, such as the fingers, toes, nose, and chin. On inspection we see that there is some flattening under both clavicles, it being more pronounced on the left side. Expansion on inspiration is distinctly defective on left side.

There is no dulness under either clavicle on percussion.

One cannot fail to notice the offensive foetor of the breath whilst examining the case.

We shall expect to find more alterations in the physical signs on examining the posterior aspect of the chest. On inspection there is nothing to note. On percussion, commencing at the upper part on the left side, there is nothing abnormal until we come to the middle, when we find impaired resonance over an area about the size of the hand, resonance being normal again below this area. On the right side, resonance is normal all over.

So far, therefore, as percussion goes, the physical examination indicates consolidation about middle of left side.

On auscultation breath-sounds are feeble on both sides. Over dull area we hear soft bronchial breathing; but there is marked absence of crepitation, a very curious state of things in a patient suffering from such profuse expectoration. There is bronchophony over the dull area.

These physical signs differ considerably from

those present when I last examined him a day or two ago; and I would call your attention to this, as the physical signs are very inconstant and variable in cases of bronchiectasis. This is explained by the varying ratio between the amount of secretion and its expulsion by expectoration. It is obvious that when the tubes are full of the secretion, from excess of its production, or from diminution of expectoration, the physical signs are not the same as when there is less material in the tubes owing to diminished secretion, increased expectoration, or both. When I last examined him some of the same physical signs were present on the right, as are found to-day on the left side. I therefore believe that both lungs are affected, but the left one to the greater extent.

To save our time, I will tell you that after examination of the other cavities of the body, there are no morbid conditions detectable. The urine is natural. I hand round this vessel containing some of the sputa of this patient. Once you have seen it and smelt it, you will never forget the character of it. It is of dirty yellowish-grey colour, of varying tenacity, and brought up in quantities varying from twenty to forty ounces in the twenty-four hours. The odour is overpowering, and in this instance has a somewhat *fæcal* character. There are various degrees of bad odour and pungency in these cases. In the milder forms, there may be only the unpleasant smell of wet mortar, sometimes there is a suggestion of the fragrance of apple-blossom about it, but in most cases the odour is terrible and far-reaching. It is quite different from that of gangrene.

Bronchiectasis is by no means a common disorder. Of the two sexes it is more common in the male than in the female.

Whilst there is still some dispute as to the pathology, there is none about the morbid anatomy of this disease. From the latter point of view we divide cases of bronchiectasis into two forms: (a) Cylindrical; (b) Globular or sacculated. The former is found more commonly in children after measles and whooping cough. It may be recovered from or may persist. The latter is the more common. My view as to the pathology of the disease is that there exists in the bronchial walls some inherent weakness, or abnormal delicacy of structure, which permits of dilatation when subjected to the force of vigorous expiratory efforts, such as those of violent coughing. Therefore the worse the bronchitis and the consequent cough,

the greater the chance of permanent dilatations of the bronchi. The chief causes of bronchiectasis are:—

(a) Bronchitis.

(b) Broncho-Pneumonia.

(c) Tuberculosis. This cannot be regarded as at all a common cause. Bronchiectasis is a rare condition; tubercle a common one. Were there any particular relation between tubercle and bronchiectasis it is obvious that bronchiectasis would not be so uncommon.

(d) Measles, with associated catarrhal pneumonia.

(e) Whooping-cough.

(f) Atelectasis.

(g) Chronic adhesive pleurisy, with progressive pulmonary fibrosis.

Before discussing the treatment for such a case as this, let us try to imagine what we should see were we able to expose the lungs to our view. What should we find? The lung would be free from tubercle, there being nothing whatever in the case to suggest tubercle, either as regards appearance, course of symptoms, or history, personal or family. We should find globular dilatations of the bronchi, and surrounding these dilatations some emphysema and fibrotic changes. Is there any symptom in this case which would lead one to suppose that there was fibrosis? Yes; distinctly there is. Clinical experience teaches us that when there is extensive clubbing of the finger-ends or other distal portions of the body, in such a case we may expect to meet with fibrotic changes in the lung. We cannot explain the connection, or correlation, between these two conditions, but clinical and *post-mortem* evidence demonstrate their frequent association.

I have said that I do not believe this to be a case of tuberculosis. No bacilli have been found in the sputa, there is no fever, no family history of tubercle, and, in fact, nothing to suggest it. What cause, then, can we assign for this condition? On referring to the notes I find that he had measles two years ago. I regard this as important, and I suspect that the disease began immediately after the measles; that he has had a slight cough, though not sufficient to give him any discomfort, ever since; and that in January an attack of acute bronchitis was the final exciting cause of this condition. I said that the patient had not suffered from fever, his temperature, since his admission, when it was 100°, having been normal or sub-normal. An important

Point to remember is that such cases are apt to have rises of temperature and other febrile symptoms from time to time. The explanation of this is that the patients may, by means of excessive accumulation of this foetid secretion in the dilatations, poison themselves and produce septicæmia. The dangers from this excessive accumulation are:—

(1) The surface of the dilatation may ulcerate, and septicæmia result.

(2) Absorption of secretion may produce septicæmia.

(3) The secretion may pass into other tubes, and set up mischief leading to gangrene.

(4) Abscess of the brain may occur.

(5) Lardaceous disease of the various viscera may arise, owing to protracted depuration.

Such then being the pathology, morbid anatomy, symptoms and complications of bronchiectasis, as found present in our patient, what are the indications for treatment?

(1) To relieve the bronchitis.

(2) To change foetidity of expectoration.

(3) To improve the general health.

In addition to the ordinary treatment for bronchitis it is well to employ disinfectant and deodorant inhalations, and to be assiduous in the use of them.

We are using for this patient the following inhalation:—

Carbolic Acid

Creasote

Tinct. of Iodine

Æther aa ʒij

Spt. Vini. Rect. ... ʒiv

Half a drachm put on lint, and inhaled from a Coghill's inhaler several times a day.

That the carbolic acid does get absorbed into the system we have evidence through carboluria occasionally being noticed in patients who thus inhale it.

To improve the general health. Place the patient in good hygienic surroundings, where he can get plenty of fresh air and sunshine. Give him a plain diet, with plenty of butter, milk, fat, and such like. Let him have malt preparations and cod liver oil. Malt liquor or wine with his food. (This patient is given half a pint of porter per diem.) For a drug give quinine, and in full doses. (We give this patient three grs. three times a day.) When, as in this case, the foetor and quantity of the expectoration diminish under such treatment the prognosis is good.

In addition to quinine give the gum resins, such as balsam or copaiba, chian turpentine, liquid pitch, Friars' balsam, or turpentine. They will help to diminish the foetor and quantity of expectoration. A useful formula, much used at one time, is—

R Terebinthinæ e Chio ... gr. iv

Ferri Sulphatis... .. gr. j

M Ut ft. pil. j ter die sumenda.

I commonly give tincture of musk (gr. ij ad f ʒj) with quinine in these cases, and this patient is now taking it in drachm doses.

Finally, as it must be our endeavour not only quickly to relieve bronchitis when it occurs, but also to prevent it, send your patient, when possible, out of England for the winter to such places as Madeira, the Canary Isles, or North Africa.

With reference to the advisability of surgical interference in these cases by tapping the dilatation, I should not advise it as a rule. If I could confidently state that there was but one dilatation, and that over it was thickened adherent pleura, I would consent to tapping, incision, or even further surgical operation; but seeing that, as a rule, we have to deal with not one but many dilatations, I should hesitate to advise the risks of an operation which would evacuate but one, leaving the many untouched.

This patient is already better for a few days' treatment, so we may fairly look for further improvement.

One word more: to aid the evacuation of dilated bronchial cavities varied positions may be tried during cough. In one case the patient bent forwards and over the side of his bed, and so favoured expulsion of his noisome secretions with marked relief.

The foetidity may in time entirely disappear, although the bronchorrhœa may persist. To accomplish this is a very satisfactory matter, and it can hardly be secured without recourse to the various methods I have recommended, nor, indeed, without unremitting attention to the patient. If you fail adequately to meet the requirements of the case, the poor sufferer will certainly lose ground, and succumb to some untoward further complication.

The various specimens of bronchiectasis, including this recent one, secured this week, and these two drawings which I hand round for your inspection, well illustrate the morbid appearances of the parts involved.

ON VESICAL CALCULUS AND ITS TREATMENT IN CHILDREN.

Delivered at the Hospital for Sick Children, Great Ormond Street, in connection with the London Post-Graduate Course, Oct. 20th, 1892, by

JOHN H. MORGAN, M.A. Oxon., F.R.C.S.,

Surgeon and Lecturer to Charing Cross Hospital and School, and the Hospital for Sick Children, Great Ormond Street.

GENTLEMEN,—I have selected this subject for my lecture this afternoon, partly on account of the great changes which have during recent years taken place as regards the treatment of vesical calculus in the young as well as in adults, and partly because of the exceptional opportunities which are offered by this Institution for studying the causes, effects, and the various modes of dealing with this affection amongst children.

I had occasion two years ago, when preparing a paper for the Medico-Chirurgical Society, to analyse the cases of this affection which had been admitted into the hospital between 1864 and 1890. The number amounted to 114 during that period, and they came from all parts of London and of the country, so that no deductions could be drawn as to the locality in which it was most prevalent.

I have selected for your inspection to-day a number of calculi from the collection in the museum of the hospital, which are of special interest on account of their size, nature, shape, and composition; but if you will inspect the whole collection you will notice that the greater majority are composed of pure uric acid, some of the larger ones, which may be presumed to have had a longer residence in the bladder, having more or less phosphatic surroundings. The next most frequent of occurrence are those composed of oxalate of lime. They are generally smaller in size than the former variety, partly by reason of their slower formation, and partly because their mulberry-like surface causes earlier and more pronounced symptoms, and thus leads to their earlier detection. Calculi of purely phosphatic material without a nucleus are very exceptional, but you will see that many are of great interest on account of the reasons for which I have selected them, and one particularly so on account of its rarity, is, I believe, almost, if not quite, unique. It consists of pure cystine, and weighed 177 grains, and was removed by lateral

lithotomy from a boy aged 9. Unfortunately, its rarity has led to a considerable diminution of its original proportions, since many enthusiastic scientists have possessed themselves of fragments.

It is but recently that a controversy took place upon the question, "What is a Stone?" The question did not refer to the chemical composition, but to the relative size of those concretions which might be classified respectively as "stone" or as "gravel." The argument turned upon the weight of the debris after crushing, which would go to constitute such a mass as was worth considering as a stone. But whether the weight be 2 grains or 20 grains, or less or more, it seems to me that a mass may be considered as a stone in the bladder, if it is of such size or shape that it cannot be passed by the patient's own efforts from the urethra. At all events it is from that point of view that we have to discuss it to-day, and we may be content to concern ourselves with the signs of its presence, the mode of detecting it, and the means for getting rid of it when its presence is ascertained.

It will not be within the scope of my present subject to discuss the nature of the constituents or calculi nor the various diatheses which lead to their formation, nor shall I attempt, for the same reason, to enter upon the subject of how, in those who are liable to the deposition of certain sediments in the urine, in forms which are insoluble in that medium, the conditions leading to that tendency may best be combated and the formation of calculus prevented. Suffice it for our present discussion that the uric acid calculus is more frequent than all others in the proportion as 1-4-5, and as nuclei in compound calculi as 1-1½ and 2½. Whilst the calculus composed entirely of oxalate of lime, which is the next most frequent of occurrence, bears the ratio of 1-14½ or 1-20 of all other calculi, and as a nucleus its proportion varies from 1-4½ to 1-7½, whilst most stones which have long remained in the bladder, whether of a child or of an adult, have more or less phosphatic surroundings.

There is a question of great interest with regard to stone, viz., the greater or less prevalence of its occurrence in various districts of the country, and as an offshoot of that question arises a second, namely, the influence which the climate, the character of the water, and the nature of the food, etc., of the inhabitants have upon the greater or less prevalence of this affection. Very little satisfactory inference can be drawn upon this subject from the statistics of London hospitals such as

this, to which patients are sent from all parts of the country, and the whole subject is one upon which further investigation would be of value, but those who desire to seek the most recent information on the matter will find it in a most careful and interesting paper read by Mr. Cadge before the British Medical Association at Norwich in 1874. But the fact which is most definite with regard to the occurrence of calculus in the young, is that it is almost unknown among the children of the well-to-do, and fairly common among those of the poor, although it is an error, as Thompson has pointed out, to assert that stone is of more frequent occurrence in childhood than at any other age. The children that are brought to us suffering from stone present no common type, some are white and feeble, others are ruddy and strong, nor can there often be traced a history of gouty antecedents, and we are left to conclude that though there may be an hereditary taint, there must be much error in the mode of nurture, in the form of diet, as well as in the powers of assimilation. The former has been well summed up by my late colleague, Mr. Thomas Smith, who attributes it to "insufficient and almost arrested cutaneous excretion from imperfect clothing and uncleanness, tending to disturb the due proportion of the normal constituents of the urine, and lead to a relative or absolute excess of some one constituent; while the digestive organs of poor children are constantly liable to disarrangement from unsuitable food or from irregularities in their mother's diet."

There is another explanation which I would suggest, that whilst lithiasis, which is only an early symptom of the tendency to the formation of calculus, is common to the children of both rich and poor parents, those of the former class enjoy an amount of attention unknown as a rule amongst those of the latter, and thus treatment is obtained for the relief of the condition at a very early period, and the ultimate formation of a concretion is thus avoided. A careful dietary and the occasional administration of mercurial and other purgatives are usually all that is needed to correct this tendency.

It must be remembered that frequency of micturition, accompanied by pain in the neck of the bladder and in the urethra, and often causing the urine to be mixed with blood, need not necessarily depend upon the presence of a stone. Children at a very early age may pass crystals of uric acid or of oxalate of lime, which will give rise to

all these symptoms. I have seen them manifested with great severity in a child less than eighteen months of age, and followed on one occasion by inflammation of the testes. In this instance it was found that the diet had been far too liberal, and had consisted of a large proportion of nitrogenous food. He had been treated with belladonna when I saw him, but this had given no relief. By enforcing a strict and limited dietary he lost all symptoms. I have seen the tendency to lithiasis so confirmed in a boy of gouty antecedents, in whom the same symptoms supervened, that beside the usual regulations as to treatment, he was obliged to winter in a warm climate, but is now a healthy well-grown lad, and has, for the time at all events, shaken off his hereditary tendency. A case was under my care some few years ago which shows the time which it takes for a stone to form, and to make its appearance in the bladder. A boy, aged eight years and nine months, was under my care in May, 1884, with a calculus in the bladder; operation was delayed on account of erysipelas, which attacked the penis and scrotum, and soon after this subsided, an oval calculus was passed per urethram. To make sure that there was not a second one present I sounded the boy and could find nothing in the bladder. In January, 1885, the boy came back again with all the symptoms of a stone, and this I removed by lateral lithotomy. I have the two stones; and the larger one, which was removed by operation, consists almost entirely of lithic acid, with a small coating of phosphates. As this could not be detected in the bladder six months before its removal, we may presume that it descended from the kidney soon after the passing of the first stone, and that as there was no evidence of its passage along the ureter, it was not of any size that would obstruct or give rise to pain. Its increase, therefore, must have been very rapid to attain this size in so short a time. There was nothing in the state of the urine which showed an excessive tendency to the formation of acids, but the mother stated that the boy had a craving for sugar and sweet things, and would do anything in order to obtain them.

Let us pass now to the symptoms which lead us to surmise the presence of a calculus in the bladder. Is there any one, or is there any combination of symptoms, which render the prospect of finding a stone on sounding absolutely infallible? I do not believe that the veriest expert would dare say more than that he would be much surprised if he did not.

Let us take the symptoms in order of their relative frequency of occurrence, and of these the most constant, perhaps, is a more frequent desire to empty the bladder. Where all other symptoms are present this one is seldom absent, and yet in the young we find very often that the child will abstain for many hours from passing urine, and when no longer able to contain it will void a very large quantity. This, no doubt, is the result of the fact that he experiences pain as the bladder becomes emptied.

Pain is the symptom next in point of value, and it is one that if properly described by an intelligent witness may be of the utmost importance as regards diagnosis. But it is one that is by no means constant, either as to its presence or as to its locality. Children are often unwilling, or perhaps unable to describe the character or even the locality of the pain, and these must be judged by such objective symptoms as may often be seen in the congestion of the penis, and dilatation of its veins and those of the surrounding parts; by the tendency which many sufferers evince to pull the foreskin, and to urge the passage of urine along the urethra by a process akin to that of milking the udder of a cow. Such patients may pass their urine frequently, in which case the bladder is more emptied from fear of the pain which may ensue when the walls of the bladder contract upon the stone, or, as stated just now, they may keep the urine until no more can be stored, and then a large amount is voided, with the almost certain occurrence of severe pain. Generally this is referred to the end of the penis, or more definitely to the glans; but not infrequently the perineum, or the parts about the symphysis, or even the inner side of the thigh may be pointed to as the region of greatest distress. But the objective symptom of most value in the young is undoubtedly the prolapse of rectum which accompanies every effort of micturition. This symptom, in conjunction with the others mentioned, can rarely lead to error of diagnosis.

A symptom which is always mentioned in the text-books, but one that is not by any means frequently present, is the sudden arrest of the flow of urine, as it is supposed to be caused by the stone being brought to the neck of the bladder, and thus forming a mechanical obstacle to the current of the water. But a stone in the bladder is not like a cork in a bottle, and if this sign of its presence exist it is more probably due to the voluntary

relaxation of effort in response to some pain produced by the closer contact of the walls of the viscus with the surface of the foreign body.

So much, then, for these subjective symptoms, and let us turn to those evidences which may be afforded by an examination of the urine. Of these the first and most important is the presence of blood, and it is rare that this is absent when a calculus exists in the case of adults. It may be only in minute quantities—so small indeed as to cause no perceptible change in colour, but almost always to be discovered by the aid of the microscope. Such aid, therefore, ought invariably to be brought to bear in every case where there is a suspicion even of a foreign body. Besides blood there may be the evidences of catarrhal inflammation, as shown by the presence of pus and epithelium. But in children the presence of blood or other materials may often fail to be discovered even with such assistance, whilst the existence of blood in such amount as to be visible without such aid is, so far as my experience goes, exceedingly rare. When all these points have been considered, and we feel that to complete the diagnosis we must use the sound, how often do we find our suspicions of the presence of a calculus to be erroneous. In children this is no matter for surprise, since on account of the indefinite statements of mothers and of children it is often necessary to use the sound in order to clear the way for treatment. Moreover, sounding, if carefully and gently performed, need cause little pain, and is not liable to give rise to those febrile conditions in the young which occasionally follow in the case of adults. For this reason a sound must not be used without good reason, and when employed it should be manipulated in such a manner as to leave no source of error.

For the purpose of sounding a child it is seldom necessary to have recourse to an anæsthetic, unless the patient is peculiarly nervous and sensitive; with care and gentleness a small-sized sound with a short beak can in most instances be easily passed and manipulated in the bladder, and all necessary information obtained.

When a patient has to be sounded, whether under an anæsthetic or otherwise, it is always wise on the surgeon's part that he should afford himself every chance of finding his stone. This I say advisedly, because I have too often seen this proceeding carried out with the most careless inattention to detail. Nothing is more likely to mar a surgeon's reputation than to overlook a stone which

is found later by another, who, perhaps, sets himself to the task with much greater assiduity and precision. No patient should be sounded in any position than that of lithotomy, but with the pelvis much more elevated than is necessary for the purposes of that operation. The sound itself should be hollow and furnished with an eye, through which the urine may escape. The beak should be short and curved abruptly upon the shaft. It is not, however, so much upon the form of the instrument that I would impress the need of detail, but upon the mode in which it should be manipulated in the bladder. I shall not waste your time by entering into the details of this manoeuvre, since it would be to repeat only what is directed for the use of the lithotrite when searching for the fragments of a stone which has once been broken. But I would impress the very great need of cultivating in every way a delicate sense of touch, and of rendering oneself familiar with the sensation given by objects of various consistence to the hidden end of a sound. There is a distinct difference between the contact of a sound with a stone of uric acid and one covered with phosphates, and before the sound is withdrawn a very fair knowledge may be arrived at as to its composition as well as of its size and locality.

There is another means of gaining information on the two latter points which is more easily available in the case of children, but which should never be neglected in the case of adults, although with an enlarged prostate it may be that little can be learnt by this means. I mean, first, examination by the rectum, and, secondly, by manual palpation between the finger in the rectum and the hand on the abdomen. In this way the size and position of a stone may be most accurately gauged.

Coming now to the question of how a stone once found should be dealt with, we enter upon ground which forms a most interesting comment on the progress of surgery of recent years. Ten years ago surgeons in this country would willingly have said that if we appeared to be near finality in the treatment of any affection, the methods at our command for dealing with a stone in the bladder were incapable of further development. The operation of lateral lithotomy as applied to children was almost the most satisfactory known in surgery, both as to its freedom from danger and as to its results. Lithotripsy, on the other hand, was becoming more and more applied in the case of adults, and with the aid of a simple evacuating instrument, designed by Clover, stones of large size were removed at one,

two, four, five, or more sittings. It would be idle to recapitulate the dangers which beset this operation as formerly practised, but they were not few, and hence the application of the operation was limited, and many cases of stone which were considered too large to be dealt with by lithotripsy, were therefore removed by lithotomy, and this was almost invariably performed by the lateral method, the supra-pubic operation being almost abandoned except for such cases as those when a stone was found in the bladder of a child whose pelvis was so contracted that there was no chance of extracting it through the perineum.

Ten years seem but a short period for so great a revulsion as has taken place in the treatment of this affection; but it can be called by no other name when we see that lithotripsy is applied at a single sitting to stones even of very large size in adults, and that the supra-pubic operation seems likely to almost displace the lateral in the case of children.

The reasons for this vast change of front may be shortly recapitulated.

In the case of lithotripsy there was necessarily a limited field for its application. It was considered undesirable to introduce instruments of large calibre through the urethra for fear of injury to this passage, and hence the strength of the instruments was limited, and they could not be manufactured of sufficient strength to deal with stones of large size.

Again, it was considered imprudent to introduce the instrument more than two or three times at most from the fear of setting up inflammation within the bladder. Hence lithotripsy was limited in application to stones of moderate size in persons of presumed fair constitution, firstly, because there must be the large fragments left for a second or third operation, and in cases where the urinary passages and organs were much undermined the irritation of their presence must almost certainly excite very serious inflammation. Again, the power of the evacuators thus used was very feeble, and admitted the extraction only of very small pieces of debris. But it came to be observed that with the great assistance of anæsthesia much more could be effected at a single sitting, and that in the case of small stones nothing forbade their being dealt with at a single operation, when they were entirely crushed and their debris washed away so that nothing was left to excite inflammation of the bladder, ureters, or kidneys.

Then came the great stride which we owe to the enterprise of American surgeons. Whilst one of them showed the capacity of the urethra for the passage of much larger instruments than we believed it possible to contain, another demonstrated that with more powerful instruments and evacuating catheters of larger calibre, the field of lithotripsy could be extended to calculi of much larger size, and that these could be got rid of at a single sitting, and hence all danger arising from the presence of débris could be avoided. Hence the lithotrites now used are much larger and more powerful than formerly, and the evacuators have a greater exhausting power, and are fitted to a tube of much larger calibre, so that the eye will admit the passage of fragments of very considerable size. Thus two important points are gained. Stones of much greater size can be broken, and the fragments of much larger size can be washed away.

In India, where stone in many districts is exceedingly common, lithotripsy has been largely practised in the case of children. The papers of Keegan and Freyer and others show the most satisfactory results, stones amounting to 236 grains have been dealt with without any unfavourable symptoms, and the mortality in these gentlemen's hands has been practically nil. I have myself crushed several stones in children, and am anxious to extend the applicability of this operation as far as possible. The size of the stone that can be dealt with must depend partly upon the capacity of the urethra, or, in other words, upon the age of the child. It has been shown that in children as well as in adults the urethra can admit instruments of much larger size than was formerly supposed. Speaking generally, Dr. Keegan says that boys of 4-6 will bear No. 7 or 8 lithotrite, and No. 8-9 evacuator, and boys of 8-10 will admit 8-10 lithotrite and No. 10-12 evacuator. His experience has been gathered amongst Indian children, and we have yet to learn in this country whether the same rules apply, but the larger the instrument that can be introduced the longer the screw which applies the force, and consequently the larger and harder the stones that can be dealt with. A fenestrated instrument should be used, and the fragments must be reduced to fine powder if possible; all will then be able to pass through the catheter, and no débris will be left. There can be no doubt of the advantages of the operation where it is practicable, and though the mortality of lithotomy in children is

only 5-6 per cent., that of lithotripsy will probably be found much smaller. In girls there can be no doubt that it should be the rule, with very rare exceptions.

The applicability of the operation to children was at first limited by the difficulty of obtaining instruments of reliable strength and sufficiently small calibre, but this has been overcome by Messrs. Weiss, who now manufacture lithotrites with the following measurements:—

| | | | | | | |
|-------|-----|------------|-----|-------------|-----|---------------------------|
| No. 5 | ... | 5 in. stem | ... | 6 in. angle | ... | opening $\frac{1}{2}$ in. |
| 6 | ... | 6 | ... | 7 | ... | " $\frac{3}{4}$ |
| 7 | ... | 7 | ... | 8 | ... | " $\frac{7}{8}$ |
| 8 | ... | 8 | ... | 10 | ... | " 1 |

All these instruments are fenestrated.

Examples of those which are now in use at this hospital before you, as well as the evacuator which I invented and described in the "Lancet," and which is found in practice to effect all that is required.

Turning to the causes which have led to the change of front with regard to lithotomy, we need refer but little to the difficulties and dangers which beset the lateral operation in children and in adults. But they are not few, and no one who has had much experience in surgery can fail to recall many disasters which have been witnessed. I have myself seen the bladder of a child opened when no stone was found, and I have been present when the bladder has been pushed upwards by the fingers, so that the finger never entered the bladder, and the operation had to be abandoned. I have seen the bladder opened and the stone left unremoved because it could not be extracted through the perineum. These are some of the dangers which are met with in the operation; but there are others such as hæmorrhage, which I have seen continue to a fatal extent, and injury to the rectum, which has caused that most troublesome of all fistulæ, a vesico-rectal. Furthermore, I have known the parts through which the stone has been extracted to be so lacerated as to cause extensive sloughing, and to bring about such a state as must almost inevitably end fatally. Finally, there is good reason for supposing that from wound of the vesiculæ seminales or some other cause, the operation is occasionally followed by sexual impotence, as it certainly is by incontinence of urine in a few cases.

With the great advances in abdominal surgery it was natural that attention should be directed to the bladder, which had hitherto been dealt with

in a far from satisfactory manner from the front, but it was left for Mr. Carson to point out how the dangers of peritonitis, which had been the bugbear of the supra-pubic operation in the past, might be avoided. As a result of his observations, and those of others, it was found that when the bladder and rectum are moderately filled, the former is forced upwards and forwards against the abdominal wall, and carries up the prevesical fold of the peritoneum from one and a half to two and a half inches, according to the amount injected into the two cavities, and by using this knowledge the supra-pubic operation has again been brought into vogue.

Recurring, then, to the analysis of the 114 cases of stone which have been treated here during the twenty-five years from 1864 to 1890, I find that seventy-five of them were subjected to lateral lithotomy, with four deaths, which gives a percentage of recoveries of 94.6, almost identical with the figures of Sir H. Thompson and Mr. Charles Williams of the Norfolk and Norwich Hospital. Of these deaths one was due to pyæmia, and the others were not directly due to the operation. Such figures are most satisfactory and encouraging, but the operation was, in several cases, followed by casualties, such as hæmorrhage, erysipelas, abscess, and orchitis; whilst the more remote dangers that I have mentioned, such as incontinence or incompetence, cannot be dealt with owing to the patients being lost sight of. Eleven cases were subjected to lithotripsy and rapid evacuation, and all recovered except in one instance, where the bladder was ruptured during the injection. Fifteen cases, all males, were treated by the supra-pubic operation, as modified in recent years. Two of these ended fatally, one from peritonitis and one from septicæmia. Since these statistics were compiled there has occurred another death after the supra-pubic operation, and one fatal case of lithotripsy in a girl whose kidneys were so thoroughly disorganized as to render the chance of success of any operation almost beyond hope.

It must not be forgotten that when a calculus has for a long time been forming in the bladder more or less disorganization and destruction will have taken place in all the renal system, and a certain proportion of fatalities must inevitably attend any form of operation which is undertaken for its removal.

Even the brilliant series of successful lithotrities published by Surgeon-Major Keegan was marred

by four deaths out of 125 cases, all being attributed to disorganization of the kidneys. It is urged against the adoption of lithotripsy in children that the opportunities of practising it are so rare that few surgeons can acquire the necessary experience. But the same might be said of many other rare operations, and the necessary manipulative skill and complete acquaintance with the manoeuvring of a lithotrite can be acquired by any surgeon with pliable fingers and a delicate touch. On the other hand, the introduction of a lithotrite, if properly conducted, gives much information as to the nature and size of the calculus, and in no way invalidates the adoption of other methods of removal if it be unsuited to the operation of crushing. Another objection to this operation is that any fragments left in the bladder will form nuclei for further concretions. But this may be avoided by the complete evacuation of all fragments at the time of the operation, or, if necessary, at a subsequent occasion.

To summarize, then, the conclusions which may be drawn from the foregoing remarks, it appears to me that to those surgeons who have experience of lithotripsy in adults, and who are conversant with the manipulation of so delicate an instrument, lithotripsy with complete evacuation of all fragments offers the greatest freedom from risks both in boys and girls, where the stone is small and can be crushed without undue exercise of force. Stones composed of oxalate of lime, or of such a size as not to be readily grasped between the blades of a lithotrite may be removed from boys by the lateral operation, but in girls should always be dealt with by the supra-pubic. This latter proceeding should always be resorted to in patients of either sex where the calculus is very large or of inconvenient shape, or where the foreign body is embedded in a saccule of the bladder or impacted in the mouth of the ureter.

In girls a further proceeding is possible in the case of small calculi, viz., dilatation of the urethra and removal through that channel; but when the stone lends itself neither to this proceeding nor to crushing, the supra-pubic operation should always be resorted to in preference to any other which involves section, either of the urethra or of the vagina, in view of the distressing and intractable consequences which are involved by a fistulous opening which so often follows any proceedings of this character.

NOTES OF A CLINICAL LECTURE ON VAGINISMUS.

Delivered at St. Bartholomew's Hospital, Oct. 20, 1892,

BY

F. H. CHAMPNEYS, M.A., M.D. Ox., F.R.C.P.,

Obstetric Physician to the Hospital.

GENTLEMEN,—The subject of my lecture to-day is Vaginismus. I have chosen this very delicate subject for two reasons: (1) because I regard the description of it as found in the ordinary text-books leaves something to be said; (2) it is a subject which may come under your notice when in practice, and as it may be answerable for the happiness or misery of families you should be in possession of all the facts known about it.

By vaginismus is meant spasm of the vaginal orifice. The name was given to it by Dr. Marion Sims, from its analogy to laryngismus stridulus. The name is apt and appropriate, but with much of that author's writing on the subject I cannot agree. The affection is not conterminous with dyspareunia. Dyspareunia means painful coition from all causes; vaginismus is one form only of dyspareunia. Before describing this condition as seen clinically by myself, and before giving you my views on the subject as regards its causation, prognosis, and treatment, I will put you in possession of the most recent description of this condition by others.

Dr. Marion Sims states that the spasm is of the sphincter vaginae, often accompanied by a similar spasm of the sphincter ani, that it is produced by any touch of the vaginal orifice, that there may be such great agony as to produce opisthotonos, or even convulsions and syncope. He attributes it to sensitiveness of the vaginal orifice, especially at the anterior part, and states that it is often greatest opposite the vulvo-vaginal duct, but often greatest at the fourchette. He also states that the outer surface is the only sensitive part, but that agony ensues on being touched, even with a feather, and that the sphincter ani often shares in the contraction. For treatment he advises excision of the hymen, and incision of the sphincter vaginae muscle, followed by dilatation of the vagina. He reports 39 cases all successfully treated in this manner. I think it

is certain that no one could now report such a series of cases successfully treated by this uniform method. It is unnecessary to state that Dr. Marion Sims regards the prognosis as favourable.

Dr. Carrol Lee, in Dr. Mann's "American Dictionary of Gynaecology" (vol. ii. p. 36), follows Dr. Marion Sims; he regards it as always due to a local lesion, and also states that the prognosis is favourable, and that "a cure may be confidently predicted."

Dr. Mann, in the same book, in speaking of vaginismus, divides the cases into three classes:—

(1) Hymeneal; (2) Accidental; (3) Nervous.

Hymeneal cases are those in which the hymen suffered abnormal injury at the first coitus.

Accidental cases are those associated with some lesion, such as displacements, endometritis, lacerated cervix, prolapsed and tender ovary, disease of rectum, piles, fissure, herpes, eczema, vulvitis, urethral caruncle, etc., coming on after marriage, and often after parturition. He adds that vaginismus may be produced only on sexual irritation.

Nervous cases are those in which there is no discoverable lesion to account for the condition. He advises dilatation after setting right any local cause, and the use of cocaine in some cases. The prognosis he regards as favourable in the first two classes, and unfavourable in the last class of cases, and adds that the nervous variety is incurable even by parturition.

I will do no more than allude to the condition known as "Vaginismus Superior," so called because the upper portions only of the levator ani muscles are said to undergo this spasm. This was first described by Schuregius in 1728, and afterwards by Hildebrandt. Though some most able men have given their adherence to this, and have stated their belief that tonic spasm of these fibres has occurred to such an extent as to render withdrawal during coitus impossible until relief of the spasm by chloroform or otherwise, I must say that to me such an idea is not only incredible, but quite inconceivable, and can only attribute its existence to timidity on one side, and want of humour on the other.

It now remains for me to state what I believe to be the truth regarding this affection.

In the first place I should classify all cases under two headings:—

(a) Primary, in which there exists no local cause, such as piles, caruncle, fissure, ulceration of the vulva, vascular caruncle, etc.

(*b*) Secondary, in which there exists some local tangible cause.

The latter class of the cases is the commoner, though very often the cause is most difficult to find. The primary class I regard as a pure neurosis, a purely functional affection, depending on no structural change.

It is a significant fact that in primary cases (1) one often finds sexual frigidity, in some always present, in others alternating with periods of sexual appetite; the abnormal condition only being associated with vaginismus. Again (2) we find that women who marry old or incompetent husbands acquire this condition. (3) We meet with cases in which the spasm is not induced by our digital examination, though it is excessive on sexual approach. Other proofs, which I need not mention, exist.

False delicacy must not be allowed for one moment to prevent us looking this condition straight in the face, and recognizing that it is frequently a sexual question. You will see the importance of this when we come to discuss treatment.

As to the phenomena accompanying the condition:—

(1) There is a tonic contraction of the vaginal orifice due to tonic spasm of the levatores ani. This is sometimes accompanied by tonic spasm of the sphincter ani. I do not myself believe that the constrictor vaginae is much more than a homologue, especially after parturition, and vaginismus often persists after many parturitions. The true sphincter vaginae is the pair of levator ani muscles, which can be felt contracting with pain when stretched by the finger. Occasionally this spasm is unilateral. I shall presently relate a case illustrative of this. Evidence, therefore, shows that the tonic spasm of the vaginal orifice is due to tonic spasm of the levatores ani.

(2) There may be the greatest terror beforehand, and accompanying the spasm there is violent pain, and even syncope or convulsions may follow.

This group of phenomena, constituting vaginismus, may be produced by (1) any touch of the vaginal orifice (2) by sexual approach only, (3) by stretching of the levatores ani within the vaginal orifice.

The condition is one of considerable moment should pregnancy occur, as it may cause great difficulty during parturition: one, indeed, only to be overcome by very freely chloroforming the patient and delivering with forceps. Perforation

has been done owing to spasmodic obstruction, but I doubt if such an operation is ever necessary. A similar obstruction is often seen during a first labour, the head being unable to pass into or distend the perineum till the levator ani is put to rest with chloroform. In vaginismus this spasm is much exaggerated.

I will now relate a few cases illustrative of this condition.

Case 1. A lady, æt. 26, who had been married four and a half years, consulted me as to the possibility of her being pregnant. I found that she was. She thought it impossible herself, as she had suffered from intense vaginismus ever since her marriage. Any touch, however gentle, of the vaginal orifice, anus, skin over sacrum and coccyx, or of the skin over the front and lower part of the abdomen, produced great pain, and she volunteered that her "tail" was very tender (coccygodynia). There was no local affection of any sort. It was necessary at her confinement, when I attended her, to anæsthetise fully with chloroform and deliver with forceps. She subsequently had three full-time children. No treatment relieved the vaginismus, and she told me some time after that "she was never meant to be married," and gave me to understand that she lived separate from her husband. A curious feature, which afterwards came to my knowledge, was in connection with the family history of the case. Her father and brother could never use enemata, as the pain was so great, and she also suffered in the same way. We have any number of neuroses in this very curious and instructive case. I wonder whether Dr. Sims would have included it as Case 40.

Case 2. A lady, who had been married several years, came to me complaining of pain in the left side of the vagina during coitus. During digital examination, on pressing against the left levator ani, tonic spasm of the muscle ensued, accompanied with the characteristic pain complained of in that region. No spasm of the right levator ani occurred on my pressing it. This was, therefore, a case of unilateral vaginismus.

Case 3. A lady, æt. 31 years, who had been married seven months without consummation of the marriage, consulted me as to whether there was anything wrong with her. She was sexually frigid, and was distressed at being so. On examination, I found nothing abnormal, except that the examination produced vaginismus with pain. For treatment the vagina was dilated when she was under æther,

and she was ordered to use a glass dilator. I cannot say that the treatment was of much good. Finally, I ordered a solution of cocain to be applied to the vagina *ante coitum*. This was done for a fortnight, and then, finding that there was no pain, the patient dropped the treatment. She, however, had no further pain, only vague discomfort, so greatly had the cocain given her confidence. She quickly became pregnant, but derived no further benefit from parturition.

In considering what treatment is advisable we will commence with the *secondary* class of cases. In these our first indication is to remove the condition to which the vaginismus is secondary. Where this can be done we can confidently give a good prognosis.

In dealing with the *primary* class of cases, those which I have called neurotic, treatment is by no means so easy to lay down, and you will need all your acumen and common sense to manage such a case, involving as it does questions of the utmost delicacy. Recognize frankly that in these cases, frequently depending on the sexual question, the husband plays as important a part as the wife, and before treating the wife ascertain whether the husband is sexually healthy. If not, then it will be a question whether temporary separation is not the best thing, the husband being sent to some suitable place and the wife to another. It is no use to forbid in these cases, you must command. Send the wife, say, to a Spa abroad, the husband to Scotland to shoot at game. The treatment does not lie entirely in the Spa on one side or in the shooting at birds on the other. Separation may act as a stimulant.

Please remember that a feeble and incompetent husband may be a young and stalwart person, as well as an old decrepit man, and that some young men are, to their credit, profoundly ignorant.

In some cases the treatment consists of vaginal dilatation under æther, following this by a persistent use of a glass dilator, on the principle that "familiarity breeds contempt." This will be found to answer in some slight cases. In more markedly neurotic cases cocain may be used locally, as in Case 3.

The good effects of cocain are largely due to the restoration of confidence. In purely neurotic cases it is useless to remove any part whatever, inasmuch as the disease is central, and the local phenomena are phenomena and nothing more. We do not excise ribs for left submammary pain; we do not

trephine for clavus hystericus; wise practitioners do not favour the removal of an ovary (generally the left) for neuralgia. Experience shows that when the site of a neurotic pain is removed surgically, the pain simply flies elsewhere, like a will-o'-the-wisp.

In conclusion, please remember that the cases vary much, and that it is by the wise application of principles, rather than by any routine treatment, that you will benefit your patient; generally speaking you will benefit the primary class but little. These neuroses are unnatural, intangible, and are probably a pathological result of civilization.

CLINICAL REMARKS

ON

A CASE OF ACNE VULGARIS.

Delivered in the Skin Out-patient Department of St. Mary's Hospital,

By MALCOLM MORRIS, F.R.C.S. Edin.,

Surgeon to the Skin Department of the Hospital,
Lecturer on Dermatology to St. Mary's Hospital Medical School.

GENTLEMEN,—This young man comes here complaining of "spots on the face." He tells us that he is 19 years of age, and that he has been troubled with this condition for some time.

If you look at his face you will see, first, a number of papules scattered over his face, which present various degrees of redness. Secondly, on looking more closely, you see a great number of little black points. These points we term *comedones*. We also notice some whitish masses, more deeply situated in the skin: such a lesion is called a *milium*.

Both these are produced by the same cause—hyper-secretion of sebaceous matter; the comedones being the result of blockage of the mouth of the sebaceous gland-duct; the milium from the blockage taking place in the gland itself.

To this association of symptoms we give the name Acne Vulgaris.

To produce acne we have several factors, and as a result of these factors being present in different proportions, we have different forms of acne. There are, in my opinion, only two forms of acne: (1) Acne Vulgaris, such as we found in this patient; and (2) Acne Rosacea. In text-books you will find innumerable forms described, but in

my opinion they are all sub-varieties of these two forms, modified by predominance of one or other of the factors which are the cause of the disease.

What are these factors? Why is this patient suffering from acne? It is convenient to group these factors as follows:—

(1) *The anatomical factor.* If you again closely examine the skin of this patient, you would describe it as coarse; coarse in the sense of thickness of epidermis. It is especially noticeable on the nose. All people prone to acne vulgaris are born with this peculiarly coarse skin, and with large and numerous sebaceous glands.

(2) *The physiological factors.* (a) We find acne vulgaris makes its appearance at the age of puberty. Now, the period of puberty varies in different individuals; and consequently the age at which acne vulgaris appears, varies from as early as twelve to as late as twenty-five years. At puberty in health there occurs an increase in the development of certain glands; and hair growth in some special parts of the body. In this class of cases, with the anatomical predisposing cause, there follows then a physiological exciting cause. The hair does not increase or appear in fresh places in these cases; but there is hyper-secretion of sebaceous matter producing this condition. Look at the patient's face; he is nineteen years of age, and yet there is but the very faintest appearance of down on his face. In these cases, then, we have the following stages occurring at puberty in the sebaceous glands of the face, following the over-development of the gland: hyper-secretion; the sebaceous matter being unable to escape, blocks the orifice of the gland, becomes a foreign body in the gland, and finally, by the pressure it exerts, produces atrophy of the gland; the capillary circulation is interfered with around the gland, and from consequent malnutrition, there is an extreme tendency to inflammation. Another reason for puberty being the age for acne to appear is that at this period both boys and girls are subjected to strain of work which naturally has a greater effect on the nervous system when it is already undergoing the considerable strain of puberty development. This produces the second physiological factor (b) a disturbance due to reflex causes.

(3) *The bacteriological factor.* In this hyper-secreted sebaceous matter micro-organisms develop. Whether they are there from the first, and are the active cause of the inflammation we cannot possibly say. We know that they are in boils, and might

perhaps assume from the analogy between the two conditions, that they are so in those cases.

Such then are the factors which cause acne vulgaris; remember that there may be various forms or sub-varieties as a result of the preponderance of any one factor.

Acne Rosacea. In this form no anatomical factor is necessarily present as a predisposing cause; the skin may be normal or it may be coarse. The predominant factor is the second of the physiological causes, a reflex disturbance from within the body. The history of such a case is that she (it is most common in women) noticed after eating, her face would flush, and remain so for about ten minutes; then this flushing would last longer and longer after each meal, until at last it persisted altogether, the nose and cheeks being especially affected. The next stage is a disturbance of the functions of the sebaceous glands, leading to their hyper-secretion and distension. This we see is just the reversal of the stages, hyper-secretion and distension, followed by capillary congestion, which occur in acne vulgaris, and therefore some dermatologists object to the name of acne being used for this condition.

The cause of this reflex disturbance is by no means always alcohol, as it is often supposed to be; most commonly there is a very feeble circulation, aggravated by the disturbance of health common at the climacteric period. Cases somewhat similar occur in younger people, long before the time of the climacteric; but, usually, these are cases of acne vulgaris in which the constitutional factor is very predominant.

Let us now consider the treatment, commencing with that of acne vulgaris. Can we do anything to prevent the development of the disease by acting on the coarse skin with its large coarse glands?

Most certainly we can. In the first place, in this class of case the patients require the skin to be washed very frequently. If ordinary people wash their faces three or four times a day, and take a few moments each time, patients prone to acne must wash twice as often and twice as long. Of many curious delusions entertained by the world at large, no one is more curious than the idea that soap is injurious to the skin of the face. If one part of the body need soap it is the most exposed part, such as the face. In these cases one wants something more than hard soap, and I order soft soap to be used with a coarse flannel. Do not be content to tell a patient like this to rub, tell him to scrub

his face with the flannel, as this is the most effectual means of getting off the coarse epidermis, and at the same time of improving the circulation.

We can help, also, by the local application of drugs. The patient can rub in some drug which will keep open the mouths of the glands, prevent micro-organisms from developing, and stimulate the skin muscles to contraction. Sulphur will do all this, and should be topically applied in the form of an ointment (10 grs. to the ounce) every night.

Can we give him physic internally, or advise him as to his mode of life and diet?

Medicines with tonic properties may be given to improve his strength, or special drugs to help any digestive disturbance or bowel trouble. The patient must be warned not to eat or drink anything likely to produce reflex flushing of the skin, such as alcohol, tea, or coffee. Smoking, except in great moderation, is injurious for the same reason. Sexual excitement should also be avoided. There are some physicians who always attribute acne vulgaris to sexual irregularities; one American authority is so firmly impressed that this is the chief factor in acne vulgaris that he advises the frequent passage of a cold sound in boys and the administration of hot vaginal injections in girls, when suffering from this disease. Whilst willing to recognize such irregularities as an occasional factor, I cannot regard them as the predominant or prominent one this gentleman considers it to be.

Such steps being taken to prevent acne in cases predisposed to it, what measures can be adopted to cure it in those who already are affected?

The curative treatment is on similar lines as that for prevention, with certain additions.

In the first place the comedones must be removed by appropriate surgical instruments, then frequent washing with soft soap and a coarse flannel must be energetically carried out. It is even well to use a mixture of soft soap and some spirit, so as to dissolve and soften the sebaceous matter. Disinfect the skin by applying, in the form of an ointment, either sulphur, resorcin, ichthyol, carbolic acid, or other drug of a similar nature. Prevent reinfection from the clothing by frequent changes of the garment worn next to the affected part, such as back or chest, and wash the adjoining unaffected skin with a solution of corrosive sublimate (1 in 2,000).

Where the inflamed papules become large, like a boil, isolate it by covering it up with this special form of Unna's plaister. This consists of a base

made of gutta-percha, containing mercury; to this is added perchloride of mercury, carbolic acid, and oxide of zinc. You will find it has advantages shared by no other plaister: it adheres well and readily, and yet is easily removed. It should be left on about twelve hours; it is then to be taken off, the part dried with cotton wool, then washed with corrosive sublimate solution and covered with a fresh piece of plaister. You will find that this form of acne usually yields rapidly to this treatment.

What can be done to remove the reflex causes?

Seeing how many there are, it would be difficult to discuss with you here the treatment of all. You should thoroughly investigate the case and make up your mind as to which is the most important factor in that particular case, letting your treatment be ruled by the information you derive from the inquiry. See that your patient wears suitable clothes, takes proper exercise and baths, eats suitable food, lives in proper hygienic surroundings, and in fact leads the rational life most conducive to good health. Careful regulations on these lines are of more use than drugs as a rule.

And now what can be done to cure or relieve acne rosacea?

We have seen that the predominant factor in causing this condition is a constitutional one, and consequently we base our treatment on this information. Our indications are to prevent digestive disturbance, especially the tendency to flatulence, by careful diet, proper exercise, and by preventing constipation. A few years ago we had to rely on aperients combined with tonics, a dinner pill such as the following being certainly one of the best prescriptions:—

R Extract. Belladonnæ
Extract. Nucis Vomicae. aa gr. ½
Extract. Aloes Soc. ... gr. ij
Ft. pil. j

With such therapeutic agents we did not get very satisfactory results; in fact, I cannot recall any condition much more difficult to be sure of relieving a few years ago than acne rosacea. Now, fortunately, we possess a simple remedy in the shape of a drug called ichthyol, which has, in my hands, acted well, bringing about a marked improvement in many cases after only a few days' administration. It regulates the bowels, prevents flatulence, helps the digestion, stops the reflex flushing, improves the circulation, and, in short, more or less quickly relieves all those symptoms so

common and so distressing in acne rosacea. I usually begin by ordering 5 grains to be taken on an empty stomach, early in the morning and late at night. After this I increase the dose in a few days to $7\frac{1}{2}$ grains, then to 10 grains, and so go on gradually increasing the dose until the desired results are obtained. I do this because I find different people react so differently. The good results are produced by a small dose in some, whereas others need a larger one. In addition to the internal administration of this remedy, it is necessary to use similar local treatment as that indicated for acne vulgaris, if inflammatory papules or pustules are present.

FORMULÆ.

Ointment for Pediculi Pubis. (Whitla, *Med. News.*)

- R Hydrarg. Ammoniat. ... gr.xxxv
 Balsam. Peruvian ... 3j
 Olei Petrolei ... 3iss
 Lanolini ... aa 3vij
 M. Ft. unguent. Apply locally.

Insufflation for Laryngeal Tuberculosis. (*L'Union Médicale*):

- R Menthol ... gr.xx-xl
 Iodoformi ... aa 3ss
 Acidi Borici ... 3j
 Calcii Phosphat. ... 3j
 M. To be used night and morning as an insufflation.

Dusting Powder for Chronic Ulcer of the Leg. (Weissmuller, *Rev. de Thérapéut. Gén.*):

- R Zinci Oxid. ... 2 parts.
 Acidi Borici ... 3 "
 Acidi Salicyl. ... 5 "
 Pulv. Amyli. ... aa 20 parts
 Talc (Pulv.) ... aa 20 parts
 M. Ft. pulv. To be applied occasionally.

For Fissures of the Tongue. (*Prager. Med. Woch.—Med. News*):

- R Acid. Carbolic... 3ss
 Tr. Iodi ... aa 3ij
 Glycerini ... aa 3ij
 M. To be applied topically.

Ointment for Chronic Scaly Eczema. (Unna, *Monatshfte f. prakt. Derm.—Medical News*):

- R Acid. Salicyl. ... gr.x
 Chrysarobin ... }
 Ammonii Sulpho-ichthyol ... } aa gr.xxiv
 Vaselini ... 3j
 M. Ft. unguent. To be applied topically.

A Deodorant Injection for Cancer of the Uterus. (*Med. News*):

- R Acid. Salicyl. ... gr.viiij
 Sodii Salicyl. ... 3iij
 Tinct. Eucalypt. ... 3vj
 Aq. Destillat. ... 3vj
 M. Three tablespoonfuls to be added to a pint of water, and used every three or four hours.

Intestinal Flatus. (*Med. and Surg. Reporter*):

Many young children are irritable, and cry because they have intestinal flatus. Instead of using opiates, Prof. Bartholow gives the following as a valuable remedy:—

- R Mist. Assafoetidæ (U.S.P.) 3j
 Sodii Bromid. ... gr.iiij
 M. Ft. haust. This is a dose for a child from one to four months.

Ointment for Tinea Versicolor. (*Med. News*):

- R Acid. Salicyl. ... gr.xv
 Sulphur. Precip. ... 3j
 Lanolini ... aa 3iiss
 Vaselini ... }
 M. Ft. unguent. Apply locally.

Powder for Insufflation in Ozaena. (Schnitzler, *L'Union Médicale*):

- R Sodii Benzoat. ... aa 3iij
 Iodoform ... }
 Picis Liq. ... gt.v
 M. Ft. pulv. Insufflate daily.

For Fissured Nipples. (Oehren, *Journ. de Méd. de Paris.—Med. News*):

- R Olei Olivæ ... 3ss
 Ichthyol ... 3ij
 Lanolini ... aa 3ij
 Glycerini ... }
 M. Apply topically.

THE SPAS AND BATHS OF THE UNITED KINGDOM AND EUROPE,

CLASSIFIED UNDER THE NAMES OF THE DISEASES FOR WHICH THEY ARE INDICATED IN TREATMENT.

THE object of this compilation is to enable the busy practitioner to ascertain quickly the principal Spas and Baths suitable to any particular disease. The list does not pretend to be exhaustive. So far as possible the alphabetical order of the names of diseases will be maintained from week to week, except where there is any special reason for altering it to suit the other contents of any weekly number. We shall be glad to receive any corrections or

additions for incorporating in the reprint to be published when the series is completed.

As a brief description of the nature of the waters they are classified into (1) saline or aperient, (2) alkaline or antacid, (3) indifferent or table waters, (4) and lastly, a class named after the most important constituent of the water, thus: Ferruginous, Sulphurous, Arsenical, etc.

Arthritis (Chronic).

| Name of Place. | Where Situated. | Height above Sea-level. | Nature of Water. | Best Time of Year for taking the "Cure." | *Distance in Hours from London. |
|------------------------|-----------------------|-------------------------|--|--|---------------------------------|
| Bath | Somerset, England ... | 83 ft. | Saline (117° to 120° F.)... | All the Year ... | About 2½ hours. |
| Buxton | Derby, England | 1000 " | Alkaline (82° F.) | Spring, Summer, Autumn .. | " 4 " |
| Droitwich | Worcester, England... | 113 " | Saline and Brine (85° F.) | Spring, Summer, Autumn .. | " 3½ " |
| Harrogate | Yorkshire, England... | 350 " | Sulphur | Spring, Summer, Autumn .. | " 5 " |
| Strathpeffer | Ross, Scotland | 200 " | Sulphur | Spring, Summer, Autumn .. | " 16 " |
| Woodhall Spa | Lincoln, England..... | ..... | Iodo-bromine-saline | Spring, Summer, Autumn .. | " 3½ " |
| Aix-les-Bains..... | France (Savoy)..... | 850 " | Sulphur (112° to 114° F.)... | April-November | " 18 " |
| Aix-la-Chapelle..... | Germany | 450 " | Sulphur-alkaline (107° to 120° F.)... | June-October .. | " 14 " |
| Amelie-les-Bains | France | 700 " | Sulphur-saline (71° to 172° F.) ... | All the Year ... | " 37 " |
| Baden-Baden | Germany | 650 " | Alkaline (110° to 150° F.)... | May-October .. | " 18½ " |
| La Bourboule..... | France | 2850 " | Arsenico-saline (140° F.) | 25th May-30th September. | |
| Carlsbad | Austria | 1214 " | Alkali-saline (122° to 170° F.)... | 1st May-1st November | " 39½ " |
| Cauterets | France | 3050 " | Sulphur-saline (55° to 145° F.) ... | 15th May-15th October | " 24 " |
| Kronenquelle | Germany | 1250 " | Sodio-lithiated-saline | Summer. | |
| Plombieres | France | 1330 " | ..... | 15th May-30th September | " 18 " |
| Royat | France | 1400 " | Alkali-ferruginous (45° to 95° F.) ... | 15th May-15th October | " 22 " |
| St. Amand | France ..... | ..... | Sulphur. Slime bath (60° F.) ..... | ..... | " 7½ " |
| Teplitz | Austria | 700 " | Alkali-saline (98° to 120° F.) ... | 1st May-1st October | " 30 " |
| Wiesbaden | Germany | 371 " | Alkali-saline (155° to 160° F.)... | ..... | " 25 " |

* For the information contained in this column we are indebted to Messrs. Cook & Sons, Tourist Agents.

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For any information on this point apply to Manager, "THE CLINICAL JOURNAL," 18 and 19, Middle Street, E.C.

THE CLINICAL JOURNAL.

WEDNESDAY, NOVEMBER 23, 1892.

A CLINICAL LECTURE

ON

A CASE OF NEURASTHENIA, With Gastralgia, Vomiting, Enter- algia, and Ischuria.

By ROBERT SAUNDBY, M.D., F.R.O.P.,

Physician to the General Hospital, and Professor of Medicine
in Mason College, Birmingham.

GENTLEMEN,—I wish to draw your attention this morning to the case of a young woman, Elizabeth Y—, aged 24, at present in Ward XX. She was admitted into the hospital on October 8th, complaining of pain in her stomach, which came on when she was tired, and was not made worse by food, but, on the contrary, was better after a meal and after resting. She had been ill six months. Her family history is good, so far as she can tell it to us, but it is not very perfect: there is no evidence of any tendency to nervous disease. She is by occupation a general servant, and she has had to work hard, getting up at 5.30 to 6 a.m., but she says she was in a comfortable situation, and does not consider that she was overworked.

Her present illness began six months ago with pains in the abdomen; she describes the pains as beginning in each iliac region, radiating round the umbilicus and into the right breast; she also complains of a "burning pain in her inside" across the abdomen, at the level of the umbilicus. These pains came on after she had been some time on her feet, and at first she was able to get rid of them by sitting down for a while. During the last two months she has suffered from frequent sickness immediately after taking food; this was not preceded or accompanied by any pain. The quantity vomited was not great, and sometimes she suffered from nausea without bringing up anything. This symptom ceased to appear about a week before admission. She has had her meals regularly, and has not been in the habit of eating at odd times.

Present condition, October 10th, 1892:—Patient is a small, well-developed, fairly nourished girl, with dark hair and grey eyes. Her face is rather pale, but her mucous membranes are not anæmic, no œdema or skin eruption ($T. = 98.8$; $P. = 72$; $R. = 24$

per min.). She has no pain or discomfort after eating, but food sometimes rises in her mouth; appetite bad; no special thirst; bowels confined. Teeth very defective, but their places are supplied by artificial ones which appear to be fairly efficient substitutes; tongue broad and flabby, showing long papillæ, coated with a mucous film. Since admission she has had several attacks of pain, although she has been lying in bed. The shape and appearance of the abdomen are normal; there is no tenderness on palpation, and except that the spleen can be felt below the costal arch, nothing abnormal can be discovered by this method of examination. There is some fixed dulness in the left flank, supposed to be due to the loaded state of her colon—

| | | |
|-----------------------------|-----|------------------|
| Splenic dulness in M. A. L. | ... | 1 in. |
| Liver | " | V. M. L. ... 3 " |

There is no cough or palpitation, but she complains of a little pain at the heart on walking quickly, and of shortness of breath on going upstairs. The heart's apex beat is in the fifth I. S. 1 in. internal to the V. M. L. The heart is not enlarged, and the sounds are normal.

Her chest is well formed, expands well and equally, while the percussion note, breath sounds, and vocal resonance indicate nothing wrong with her respiratory system.

She has been very subject to headaches for the past seven years; these have been generally vertical, sometimes parietal, but they have not been attended with vomiting, and have not occurred at or about her menstrual periods. She says that her head feels big and heavy when the pain is present, and that the scalp remains sore to the touch for some time afterwards. She suffers from ringing and thumping noises in her head; she is often giddy, but has never fallen; she has only fainted once in her life, a fortnight before admission. She says she is easily excited and put about, but is naturally good-tempered. She is quick in her movements and at her work. She does not remember having had any other pains than those described. Last summer she went away to the country for three weeks, but the holiday did not do her any real good, as she was bad again three days after her return. She does not think excitement brings on the pain, though fatigue does.

She complains of specks before her eyes, but

vision is otherwise normal. Special senses normal, except some defect of hearing* in the left ear, due to a slight cold; no abnormal sensations; cutaneous and muscular sensibility normal; plantar and patellar reflexes present, the latter being decidedly exaggerated.

She menstruates every fortnight, but the flow is scanty and without pain. There is no pain or difficulty on micturition: quantity 20 oz., Sp. gr. 1038, loaded with urates; acid; no albumen, sugar, or bile.

On the day following that on which these notes were made, a rose rash spread over her face and body, which was attributed to the use of an enema of soap and water, and soon faded away.

On the 15th she complained of nausea and of "cold shivers," which came on frequently. She was at this time on milk diet, and taking purgative doses of H. Mag. Sulph. c. Ferro. Her temperature, pulse, and respirations remained normal, but the amount of urine excreted varied very much, and was greatly below the normal amount.

On the 14th she passed 12 oz., on the 15th, 16 oz., on the 16th, 4 oz., the 17th, 5 oz., the 18th, 5 oz., the 19th, 13 oz., the 20th, 26 oz., the 21st, 14 oz., the 22nd, 5 oz., the 23rd, 8 oz., the 24th, 6 oz., the 25th, 13 oz., the 26th, 8 oz., and so on. The whole six ounces passed on the 24th was examined; its Sp. gr. was 1035, reaction acid, but it contained no abnormal constituents. The total quantity of urea was 50 grains.

On the 20th she complained of a burning pain after her food, and on the following morning a "test breakfast" was administered. By a "test breakfast" we mean a half slice of bread and three-quarters of a pint of weak tea, with milk and sugar. An hour afterwards the stomach contents were withdrawn by a tube, filtered and tested. They were strongly acid, but there was no free hydrochloric acid present, and further examination showed that the acid reaction was due to the presence of lactic acid. Albumoses were present, and after precipitation of these, there was a faint peptone reaction. The conclusion drawn was that stomach digestion was very feeble, owing to insufficient secretion of gastric juice.

On October 31st, she began to vomit again, and the vomited matter on examination proved to be ordinary stomach contents, containing free hydrochloric acid and peptone.

The problem we have to consider in this case

was: Is this girl suffering from organic disease of the stomach, or are the symptoms merely the results of nervous derangement? You recollect that in the first place she complained of *pains*; but these pains were not brought on by taking food or associated with the process of digestion, but, on the contrary, were caused by fatigue, and were even said to be relieved by a meal. Now, such pains are, as a rule, neuralgic in character, but, unfortunately, we can never rely upon rules of this kind. In the first place, patients make mistakes, so that one who tells you that the pain is relieved by food one day, tells you it is caused by food the next. We have had something of that experience here, which has served to make the diagnosis more difficult. In the second place, I have met with cases of actual organic disease of the stomach, for example, ulcer of the stomach, in which I have been assured that food has allayed the pain. But another difficulty in the way of accepting, without further inquiry, the idea that the pain was merely nervous was the history of vomiting after meals. No doubt this may be nervous too, but it has to be proved. Nervous vomiting is, as a rule, persistent, and occurs after every thing, that is to say, the simplest and least irritating articles of food are as liable to be rejected as those which might be supposed to cause some embarrassment to the stomach—so that water even is vomited. The girl's appearance and manner are strongly in favour of a neurosis; she seems to be one of those very active, energetic persons who overwork themselves and then suffer from the various nervous symptoms which are included in the modern and convenient term *neurasthenia*. We meet with a good many instances in women servants, who often, especially if they have charge of children, are liable to long spells of very hard work, with loss of rest, and a good deal of confinement to the house when their little charges are ill. I hope you will bear in mind, when in practice, that it is the doctor's duty to see that the attendants on the sick do not make themselves ill by a devotion which, however admirable, arises in a great measure from ignorance. However, if that is the case with our patient, rest in bed and good food ought to cure her. As she was constipated she was ordered the Haustus Mag. Sulph. c. Ferro in aperient doses. She went on pretty well at first, but soon began to complain of pain after food. An attempt to get her to take meat was followed by greater pain, and it seemed

* This passed off in a few days.

desirable to carry our inquiry a little further, and see how far her stomach was capable of digesting food. For this purpose on the morning of the 21st October she had a test breakfast, with the results already detailed. As the digestion seemed greatly enfeebled she was put back on milk for a week, and then a little boiled chicken was added. But she did not eat well, and the nurse had to be told to see that she took all her food.

Lately the vomiting has returned, so that on Sunday morning she had another test breakfast, and I have here the filtered stomach contents. We know from a number of actual observations made by Ewald and Boas, that in a healthy stomach during the digestion of such a breakfast as has been described three stages occur. If the contents are brought up in ten to fifteen minutes after it has been taken they are found to be acid from acid salts or free acids, or both, but these free acids consist chiefly of lactic acid. This continues for the first half or three-quarters of an hour, after which distinct traces of hydrochloric acid are found together with the lactic acid. At last the lactic acid disappears, and under normal conditions only hydrochloric acid is found. This means that by that time the hydrochloric acid has been secreted in sufficient quantity to saturate all its affinities, and to leave something over to give the test of free hydrochloric acid. Where the secretion is insufficient this process is delayed, and that was the case here, as in the vomited matter obtained on the 31st there was abundant evidence of free hydrochloric acid and peptones. Such delay may easily occur in debility. There are many methods of testing for free HCl., but the best, according to Professor Ewald, is the following:—

A drop of a solution of

| | | | |
|------------------|-----|-----|---------|
| Phloroglucin | ... | ... | 2 grms. |
| Vanillin | ... | ... | 1 " |
| Absolute Alcohol | ... | ... | 30 " |

is placed in a porcelain capsule with a drop of filtered stomach contents, and the mixture gently heated over a spirit lamp, so that the fluid evaporates but does not boil. At the edges of the evaporated fluid a bright red patch or fine red streaks appear, which denote with certainty the appearance of hydrochloric acid.

If the contents are acid but hydrochloric acid is absent, it is necessary to determine the nature of the acid present, which is almost certain to be lactic acid. The test for this is a very simple one.

Take some ordinary 5 per cent. solution of carbolic acid, and add to it a drop or two of solution of perchloride of iron till the fluid is a pale, clear, amethyst blue. To this add a few drops of stomach contents, when, if lactic acid is present, the colour will change to a canary yellow.

But the great measure of gastric efficiency is the formation of peptone. The test for peptone is the so-called biuret reaction, or the pink coloration of Fehling's solution; but, unfortunately, the substances called albumoses or pro-peptones (albumens not yet converted into peptone, but on their way thither), give this reaction, so that it is necessary to get rid of them before employing this test. They are removed by acidulating the fluid with acetic acid and saturating it with ammonium sulphate, the mixture being allowed to stand for twenty-four hours. This throws down the albumoses, and after filtering, the fluid can be tested for peptone. The fluid I show you has been so treated, and you see the result: only a faint trace of peptone is present. It of course does not follow that complete peptic digestion will not take place in time; in order to determine that, we put the filtered contents, separated into three portions, in an incubator; to one we add a few drops of hydrochloric acid, to another some pepsine, and to the third nothing, that being the control test. It is most probable that digestion will take place in all of these, but this part of the investigation has yet to be carried out.*

I have pointed out to you the striking reduction in the quantity of urine excreted during the time this patient has been in the hospital, a total of 345 ounces in 27 days, or an average of 13 ounces a day. I do not think there is any reason to doubt the fact; the patient has been confined to bed, and is carefully watched, while she was certainly not aware until a few days ago that any interest was taken in the amount she was passing, beyond the routine practice of measuring the daily quantity, which is carried out for all patients alike. As the suppression gave rise to no apparent inconvenience, it is certain that had these measurements not been made we should not have discovered it, and this suggests that many similar cases in private practice may easily escape observation. Comparatively few cases have been recorded, many of the earlier ones being associated with such fabulous details of vicarious excretion of

* The simple stomach contents placed in the incubator, digested boiled egg albumen completely.

urine by the ears, eyes, navel, breasts, etc., that in these sceptical times they were not thought worthy of serious consideration.

The late Professor Laycock, in his exceedingly learned and curious book on the nervous diseases of women,* describes this nervous *ischuria*. He relates two cases: in the first, a girl of thirteen, suffered from frequent sanguineous discharge from the vagina, debility and pain in the back, with tympanitic distension of the abdomen and constipation; she passed only a few table-spoonfuls of urine daily, while "a nauseous salt water of a red colour used to come into her mouth." This fluid when heated, smelt strongly of urea, and coagulated, while when the patient was taking turpentine it smelt strongly of violets.

The other case is on the authority of Dr. Girdlestone, in which a young lady was said to have remained without passing urine for two years, meanwhile vomiting urinous fluid. "Her motions were invariably found to have come away without a single drop of urine, and in the presence of Dr. Girdlestone and Mr. Borratt, a catheter was introduced by Mr. Downe, when the bladder was found not only empty but so contracted as to lead to the belief that no urine had entered it for some time." Professor Laycock devotes all the rest of the section to the consideration of the probability of the occurrence of *paruria erratica*, that is, of a vicarious secretion of urine by other organs, such as the stomach, and concludes in its favour. Professor Laycock did not possess the faculty of popularising his teaching, so that his observations remained unheeded until Professor Charcot drew attention to them in his lectures.† Charcot pointed out that it is not a question of mere retention of urine, a common enough fact in hysteria, but of the actual quantity secreted by the kidneys being remarkably below the normal amount, and even frequently reduced to zero. The occurrence is often transient, and may under these circumstances easily escape observation; but in others it becomes permanent, and for weeks or months the quantity of urine rendered in twenty-four hours may be quite insignificant in amount, or there may be complete suppression for several days together. When matters take this turn, fluid is vomited which contains urea, and Professor Charcot compares this con-

dition to that of the animals experimented on by Prévost and Dumas, and especially by Claude Bernard and Barreswill, where removal of the kidneys or ligature of the ureters was followed by a vicarious elimination of urine from the intestine. In the matter so eliminated some observers (Claude Bernard) have detected carbonate of ammonia, resulting from the decomposition of the urea, and others (Munk) urea itself. The animals seemed to suffer little inconvenience, and it was only when this supplementary excretion ceased that grave symptoms occurred, which soon occasioned death. Professor Charcot says that he was for long under the impression that these cases were instances of simulation, of which several examples came under his observation; and the fact that calculous suppression of urine is always fatal in a short time, made it difficult for him to understand how these patients could suffer so little apparent inconvenience if the renal functions were really suppressed. But he ultimately met with a case of chronic hysteria with contraction of all four extremities, by which the patient was confined absolutely to her bed, and surveillance was made easy. Under these favourable conditions, it was noticed that she passed little or no urine, the average daily amount for a month being 3 grammes, while during the same period she vomited a litre daily. Complete anuria occurred at times, but never lasted more than eleven days. The vomited matter was carefully examined and found to contain urea; a portion of the patient's blood was withdrawn, but the amount of urea found in it did not exceed the normal. This case satisfied M. Charcot of the genuineness of this curious condition. He thinks the explanation of the tolerance of the condition must be looked for in a decrease of the phenomena of catalytic activity manifesting itself by an absolute diminution in excrementitious matter.

I was acquainted with the writings of Professor Laycock and M. Charcot, but my personal experience of this affection began six or seven years ago, when Mr. Lawson Tait asked me to see a lady who was passing a very small quantity of water. She was an inmate of his private hospital, and was carefully watched, so that there can be no doubt as to the facts. On one occasion she passed only sixteen ounces of urine in a week. This when examined was feebly alkaline from decomposition and deposited phosphates; it contained a large amount of indican and 176 grains of urea—the total urea eliminated by the kidneys in a week of

* "A Treatise on the Nervous Diseases of Women." By Thomas Laycock, M.D. London, 1840.

† Lectures on Diseases of the Nervous System. By J. M. Charcot. London: The New Sydenham Society, 1879.

seven days, instead of the normal quantity of at least 2100 grains. What became of the remainder? I cannot say; she did not vomit, and was constipated. She presented many other nervous symptoms, and was at the time undergoing the Weir-Mitchell treatment. In a short time she began to pass a normal quantity of urine, and as she improved in other respects she was sent home.

A couple of years later I saw a young lady, aged nine, who alarmed her mother and puzzled her medical attendant by the great variation in the daily quantity of her urine. Sometimes this would be normal for her age (30 ounces), and at other times she would go for twenty-four hours without passing more than half an ounce. This was not due to retention, and there was sufficient evidence of a neuropathic tendency to justify, in the absence of graver urinary derangement, the diagnosis of hysterical or nervous ischuria.

Since then I have met with moderate degrees of ischuria in a good many hysterical patients, and I take the present opportunity of speaking to you on the subject because it is one that is really more common than it is thought to be, such examples as the present occurring with tolerable frequency, though they are doubtless often overlooked.

We may sum up the case in conclusion by the statement that there is no evidence of any organic disease, and that the whole of the symptoms are functional in their nature, of nervous origin, and dependent upon a condition of neurasthenia which time, rest, and patience will cure.

Powder for Flatulence. (*Journal de Médecine de Paris*):

| | |
|------------------------------|-------|
| ℞ Naphthol. | 3j |
| Magnes. Carb. | 3j |
| Charcoal in Powder | 3j |
| Essence of Peppermint | gt.ij |

F. pulv. Divide into 15 powders. One to be taken at the beginning of each meal.

Enemata for Causing Expulsion of Oxyures Vermiculares. (*Minerbi, Philadelp. Med. News*):

(1) *For a Child—*

| | |
|---------------------|-----------|
| ℞ Naphthalin | gr.xv-xx. |
| Olei Olivæ | 3x-3ij |

M. Sig. As an enema.

(2) *For an Adult—*

| | |
|---------------------|----------|
| ℞ Naphthalin | 3j-3iss |
| Olei Olivæ | 3ij-3iij |

M. Sig. As an enema.

A CLINICAL LECTURE

ON

SOME POINTS IN THE DIAGNOSIS AND TREATMENT OF HIP-JOINT DISEASE.*

Delivered at King's College Hospital, Nov. 10th, 1892,

By **WILLIAM ROSE, F.R.C.S.,**

Professor of Clinical Surgery, and Surgeon to the Hospital.

GENTLEMEN,—In my last lecture we considered the history and progress of a case of Hip-joint Disease, as regards ætiology and symptoms. We also followed the course a case would pursue if allowed to proceed untreated, either to death or to recovery with considerable and extensive deformity. To-day I propose to discuss certain special points as regards the diagnosis, prognosis, and treatment of this condition.

In the first place as regards **Diagnosis**. There are four special conditions for which hip-joint disease may be mistaken:—

(1) *Disease of the knee-joint*. This is by no means a rare error. I have occasionally seen a patient with a healthy knee-joint painted with iodine where the disease was situated in the hip. This error is due to the fact that the child does not give a very clear history, and refers the pain to the knee instead of the hip-joint. Whenever you see a child who complains of pain in the knee, first carefully examine the joint, and if there be no effusion or other sign of joint disease present, such as limitation of movement, have the child stripped and then make it stand up, to see if there is any apparent lengthening or shortening of one or other limb; finally, take the usual measurements, and form your opinion on the evidence afforded by the examination, rather than depend on the child's statement.

(2) *The disease may be erroneously ascribed to the sound hip*. This error, though not so frequently met with as the former, is occasionally committed. You will remember that in my previous lecture I spoke of the apparent lengthening of the limb in the earlier stages, which I also stated was due to the tilting downward of the pelvis on the affected side. This may mislead the surgeon into the belief that the disease is on the side of the

* Abstract of.

apparent shortening. The question should be settled—firstly, by the situation of the pain; secondly, by the alteration in the shape of the gluteal region; and thirdly, by the painful limitation of movement on the affected side.

(3) *Disease of one or both sacro-iliac synchondroses.* In this affection the patient presents many signs which resemble those of hip disease. He complains of lameness, and the pelvis is tilted in a somewhat similar manner; but the latter condition is due to rotation of the whole os innominatum, whereby the anterior superior spine is displaced downward and forward. On the other hand, by pressing the two ilia toward the sacrum, pain is frequently elicited in the articulation, and a distinct swelling is generally present in the same region. When, however, the pelvis is fixed, there is perfect freedom of movement at the hip-joint without pain.

(4) *Spinal disease.* If the case is one with well-defined symptoms of spinal disease, pain on movement of the vertebræ, and an abscess pointing in one of the usual situations, there is not much danger of a mistaken diagnosis. But when the pus passes into the pelvis, and then leaves it by the sacro-sciatic notch, the diagnosis may become one of difficulty at first, although the subsequent course of the case will disclose its real character. Finally, I must warn you that both spinal and hip-joint disease may co-exist in the same patient.

And now a few words as to **Prognosis** in hip-joint disease. We may speak of the prospects as regards the life of the patient, or as regards the retention of the limb and its subsequent utility. The Prognosis depends *inter alia* very much on the period of the disease at which it comes under your observation. The earlier the disease is taken in hand the better, and the greater chance there is of treating it successfully. If the child is blest with parents who can afford to keep it in proper hygienic surroundings, take it to the seaside, provide suitable and scientific mechanical appliances, attention, nursing, and everything else needful, the Prognosis is naturally better than in the usual class of children who are treated in hospitals, for in these latter not only can they not afford any of the helps I have mentioned, but frequently they are children of very low vitality.

This brings us to the question of **Treatment**, which can be conveniently divided into what we may term—(1) The expectant or mechanical, and (2) the operative treatment. Under operative

treatment we shall deal with its different forms of (1) incision, (2) excision, and (3) amputation.

First, as regards the *expectant treatment*. The patient is put to bed, so as to rest the body, and the hip should also be immobilised. But whilst we rest the patient in bed, the constitutional condition must not be forgotten; for though rest in bed is very appropriate for the limb, the want of exercise is likely to induce a torpid liver, and to impair the various functions of the body. Unless, then, we give tonic treatment, and take care that the food is carefully regulated, the benefit arising from the rest is sometimes counteracted by the injury done to the general constitution.

As to the *mechanical treatment*, there are various ways of fixing the hip. One of the most convenient of all extension apparatus is by means of a weight and pulley, the weight being attached to a piece of cord passing over the pulley at the raised end of the bed; this is attached to the limb by means of properly adjusted strapping, and a weight of from one to five pounds is employed to keep up constant tension, and so relieve the pain by keeping the articulation extended. The limb is steadied by means of sand-bags and a draw-sheet. Occasionally it may be advisable to apply extension to both limbs so as to prevent any undue tilting of the pelvis to either side; a heavier weight may often with advantage be placed on the shorter limb, which in the earlier stages is the sound one, and in the later the diseased.

In the next place we have the long Liston splint, with the perineal band, taking its purchase from the ischial tuberosity, a plan in vogue many years ago; and still had recourse to in the treatment of fractures of the thigh bone high up, and one, I believe, still adopted by my colleague, Sir Joseph Lister, for this disease.

Lastly, we have what is called Thomas's splint. When I explain the way in which this splint is applied, I think you will see that it meets the difficulty alluded to above, viz., the immobilisation of the limb, and yet permits the child to get about in the fresh air. It is made of iron rigid enough to bear the weight of the patient, and annealed so that it is capable of being bent into any shape, so as to fit the back of the patient and the injured thigh. It is usually one inch and a quarter wide, and one-sixteenth of an inch thick. It consists of a vertical portion which passes down the back from about the level of the scapular angle, and, of course, on the side of the spine corresponding to

the thigh affected. It reaches down to just below the enlargement of the calf, about the centre of the leg. There are three semi-circular pieces of iron rivetted through their centres at right angles to it, one at the lower extremity to clip the calf; a second embraces the thigh just below the nates; and the third is at the upper extremity, surrounding the thorax for two-thirds of its circumference, the rest being completed by a strap. It is kept from slipping down by straps and buckles which go over the shoulders, and are fastened in front.

The advantages of Thomas's splint are that it can be applied at any stage of hip disease, and that, if the child be not suffering considerable pain, it is possible for it to go about and get exercise. To accomplish this a patten is placed under the sound foot, so as to raise it about two inches or more above the ground, and the child walks on this by means of a pair of crutches, so that the diseased limb hangs stiffly at the side, and does not touch the ground. To recapitulate, the two important features about the use of a Thomas's splint are the fixation of the limb, so as to steady the hip-joint, and the fact that it enables the patient to go about and get fresh air.

As regards constitutional treatment, of course, as said before, fresh air, etc., is of the greatest importance. Good food, good milk, fresh meat—not the tinned meat that the poor are so fond of giving their children, on account, probably, of its cheapness—all these are necessary. The best drugs are syrup of the iodide of iron, Fellows' syrup, and cod-liver oil. As regards local applications to the hip, I am afraid I cannot say, from my own experience, that they are of much benefit. Blisters and iodine paint have been recommended, and supposed to be beneficial; but the depth of the hip-joint precludes the possibility of their being of much value. The actual, or button cautery, on the other hand, has been of great use when applied in the trochanteric region, and appears sometimes to have a good effect in relieving deep-seated pain, particularly in the early stages of the disease. It is, however, an open question whether the benefit derived is not as much the result of the rest as of the cauterisation.

In judging of the results of the expectant and mechanical treatment, it is instructive to turn to the published statistics of Mr. Howard Marsh, who has devoted considerable attention to the treatment of hip-joint disease without operation at the Alexandra Hospital for Hip Disease in Queen Square,

where operative treatment is not adopted. In 277 cases where suppuration occurred, the average duration of successful treatment was four years; where no suppuration occurred, they required treatment in the way I have indicated on an average for three years. Out of 401 reported cases, Mr. Marsh speaks of 42.3 per cent. cured, 24.2 per cent. incomplete cases—*i.e.*, cases discharged with sinuses, or still under treatment—and 33.5 per cent died.

At King's College Hospital, however, we do not altogether agree with leaving these cases alone; abscesses are not allowed to burst, but we treat the hip in a more heroic manner.

With regard to the **operative treatment**, three different methods are employed: (1) simple incision to drain abscesses, (2) excision, and (3) amputation.

Some of you may have seen me make a simple incision as a preliminary to later operation; for when we have a very large abscess to deal with, such as you see in one of these drawings, it is often politic to diminish the size of the abscess cavity and allow of its contraction by means of the preliminary evacuation of the pus before excision is resorted to. In very young children I have known the opening of a large abscess to be followed by considerable reactionary hæmorrhage from the vessels of the abscess wall, which, if superadded to the shock resulting from the operation of excision, may determine a fatal issue. In such cases, by keeping up suitable pressure, we can, without disturbing the patient very much, render the part much more favourable for operative treatment in the course of a few days.

Ordinary incision and washing out the joint has been had recourse to, but in tubercular cases is insufficient, and therefore unsuccessful in dealing with the disease. On the other hand, I have incised hip-joints in which there have been abscesses from pyæmic sources, where perfect recovery has resulted.

As regards the operations for *excision of the hip*, we have two principal methods which are called the anterior and posterior. The *anterior method* is performed as follows:—The point of the knife is entered about three-quarters of an inch below the anterior superior iliac spine, and an incision is made almost directly downwards. The knife should pass firstly between the tensor vaginæ femoris and the sartorius muscles, and then more deeply between the rectus femoris on the inner side and the gluteus minimus. The capsule of the joint is opened by election close

to the anterior inter-trochanteric line, and the left index finger introduced into the cavity of the joint. Probably it is distended with pus; and having ascertained that there is a sufficient opening, a narrow saw of any description is introduced, and the neck of the bone cut through close to the trochanter. The neck is then seized with a pair of lion forceps, and the head removed. This done, the cavity of the acetabulum is examined, any accessible disease of the bone being removed, as well as synovial membrane.

After this the wound should be thoroughly irrigated with a hot solution of carbolic acid (1 in 80), hæmorrhage being thereby arrested; the temperature of the lotion should be such as just to permit the hands to be dipped in it without pain. If one is reasonably sure that the whole of the disease has been removed, there is no objection to the stitching up the wound. If, on the other hand, there is any doubt on this point, a drainage tube should be inserted, or the wound stuffed with antiseptic gauze soaked in glycerine and iodoform. The advantages of this operation are that no important structures are cut through. The powerful muscles attached to the trochanter are left intact, and the surrounding structures are but little disturbed. There is a much smaller wound, and consequently less shock to the system, than in the posterior operation. But it is necessary that I should place before you certain disadvantages which this method entails:—

(a) Bad drainage, where such is necessary, the opening being placed above, and not at the most dependent point, for the patient has to lie on the back.

(b) The disease is not necessarily limited to the head and neck of the bone, but we often find that it involves the trochanteric region and upper part of the shaft, and such cannot satisfactorily be dealt with by this operation.

(c) Acetabular mischief, when it exists to any great extent, is difficult to reach from in front; for the head of the bone lies at a considerable depth from the front of the thigh, and the acetabulum can be better exposed by the posterior incision. The *value* of this operation, then, seems to consist in its application to disease of the hip in its very early stages, where the disease has not advanced to that stage of dislocation to which I have referred, and where the head of the bone, though eroded, is still in the acetabulum.

The posterior method. Where sinuses exist, they

should be utilised by laying them open, and exposing through them the seat of the disease. They also act as guides to the different foci of tubercular mischief, and should be thoroughly scraped and purified at the conclusion of the operation. The resulting wound should not be stitched up, but left to granulate from the bottom.

Where no sinuses exist, it is my usual plan to commence my incision a little above the great trochanter and carry it downward and backward, skirting the posterior border of that prominence in a crescent-shaped manner, the bone being immediately reached. By means of retractors the wound is held open, and the trochanter is clearly defined. The shaft of the femur may now be divided by means of a chisel just below the great trochanter, but the lesser trochanter must, if possible, not be interfered with. The head and neck is laid hold of by the lion forceps, and the muscles divided and separated; the head is readily twisted out of its socket and removed, and the acetabulum may be cleared with a suitable gouge. The wound is best treated as an open one, unless the surgeon is quite satisfied that the whole disease has been removed.

With regard to the sub-periosteal method of operating, I have not found it always feasible or satisfactory. The surgeon should not lose sight of the fact that the object of the operation is the removal of all obvious disease. At the same time the muscular insertions into the periosteum should be stripped off by the raspatory where practicable, and not cut through at a distance from the bone.

Regarding the performance of *amputation* of the hip, I think I may say briefly that in the present day we never amputate at the hip unless previous incision or excision has failed, or unless we see most distinctly that the patient is not able to bear the prolonged drain and the shock of the latter operation. I had to amputate at the hip last session for this disease, but it was then simply a question of saving the child's life. On a future occasion I shall hope to deal more fully with this part of the subject.

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A CLINICAL LECTURE

ON

ALBUMINURIA IN PREGNANCY.*

Delivered in connection with the London Post-Graduate Course,

By J. B. POTTER, M.D., F.R.C.P.,

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Late Examiner in Midwifery to the Conjoint-Board.

AMONG the diseases of pregnancy, albuminuria is one of the most important, and it is on this account that I am directing your attention to it this evening. It is only within the last fifty years that it has been recognised. It was first alluded to in France by Rayer, and soon afterwards in this country by Dr. Lever in the seventh volume of the "Guy's Hospital Reports." Since then various papers have appeared on the subject from time to time, but the import of the symptom still remains somewhat uncertain. This, no doubt, is due to the varieties of the disease. From the observations of Monsieur Blot, many years ago, it appeared that at least twenty per cent. of all pregnant women had albumen in the urine in varying quantities, and it was estimated that albumen was to be found, one in seven before, one in four and a half during, and one in four shortly after labour. These observations, however, have never been confirmed in this country, and the amount of albumen sometimes present, and persistence or not after delivery, has not been stated.

The reason that albuminuria has always been regarded in pregnant women with alarm has been on account of the coincidence in many cases with the occurrence of eclampsia; but there are other—and quite as great—dangers which occur in its presence, viz., retinitis, causing almost blindness—the "amaurosis" of old authors, and the persistence of the symptom itself, ultimately causing the death of the patient from Bright's disease. Hence we shall find that our treatment to be successful must, in the main, be preventive. It is well to remember in the outset that albuminuria is far more frequent in primiparous than multiparous women, though even in the pregnant state the urine of a healthy woman contains no albumen, hence it may clearly be said to indicate a pathological condition of which it is the symptom. Also that in both,

the greater the age the less the liability; and it also may be taken as a general fact that the amount of urea found in the urine is diminished in all cases.

Now with regard to the causes, the following have been assigned; pressure on the renal veins, or on the ureters; increased arterial tension in connection with hypertrophy of the heart; reflex irritation conveyed from the uterus to the kidney; increased work thrown upon the kidney during pregnancy, this acting on a kidney originally weak, and possibly having undergone some degeneration; then the occurrence of Bright's disease before or coincident with the pregnancy, or the re-development of old scarlatinal dropsy. Among the French authors, super-albuminosis is assigned as a cause.

Now, first with regard to pressure—although this may be an active cause sometimes in the latter part of pregnancy, and especially when œdema is found of the lower extremities, it can scarcely be considered an active cause in those cases where the albuminuria is a comparatively early symptom, especially those cases where it comes on before the fourth month. With regard to increased arterial tension, this undoubtedly, in the presence of a watery condition of blood, favours the occurrence of albuminuria; and when we come to consider the state of the blood in pregnancy, no doubt this has an important bearing.

Let me remind you roughly that the blood during pregnancy has less albumen and more water, and it is on this account that the French observers lay stress upon the condition of super-albuminosis being a cause of albuminuria. They contend that although the amount of albumen in the blood in pregnancy is lowered, still proportionately the water is increased, and that in the presence of this arterial tension there is a tendency in many cases for exudation of the albumen to take place; and the experiment of Bernard of the injection of albumen or serum into a vein producing albuminuria, and also the known fact that an excessive diet of albuminous material has also given rise to albuminuria, have a distinct bearing on this. It has also been thought that a large amount of albumen being required for the nutrition of the foetus, and this not being used up, especially in cases when the foetus is found small and shrivelled, that the excess of albumen not used exudes through the vessels and passes into the urine. There is no doubt—and Tyler Smith laid stress upon this—that the reflex condition, in the same way as other reflex symptoms such as induce the vomiting of preg-

* Abstract of.

nancy, has to do in some cases with the occurrence of albuminuria. It has been stated, and I believe correctly, that it is rare to find blood in the urine in the albuminuria of pregnancy, whereas in the acute desquamatory nephritis it is fairly common.

With regard to the coincidence of Bright's disease, this is often difficult to ascertain, as we are by no means certain when the albuminuria commenced. My own impression is that in many cases which I have seen, the cause seems to be some latent condition of the kidney, which is brought out by the presence of pregnancy, and this certainly accounts for those cases where albuminuria comes out in successive pregnancies and disappears on the termination of the pregnancy. Other symptoms that are noted in albuminuria are oedema, headache, deafness, blindness, paralysis, dizziness, vomiting, and pain in the lumbar region. Of these it is necessary that I should lay stress upon the occurrence of oedema; this is not often overlooked in the latter part of pregnancy. At this period oedema is observed, and among the older authors was often associated with the occurrence of convulsions. But it is to the occurrence of *early oedema* that I wish to draw your special notice. This is often observed in connection with the eyelids, but oedema to a considerable extent of the vulva often takes place, and is either not noticed by the patient or she lays no stress upon it. In two cases this has been a very well-marked point; in both of them the patient was apparently well, and complained of nothing; in one as early as six weeks the oedema of the vulva was so great that it was necessary to relieve it by puncture, and in this case albuminuria had occurred in the two previous pregnancies, in both of which abortion took place between the third and fourth month. In the other case, a primiparous woman complained of nothing, and apparently being in perfect health, was seized at about the fourth month, with violent convulsions, deafness, and blindness, lasting for over thirty-six hours, the urine being nearly solid with albumen. After this period the symptoms slowly passed off. When the patient recovered consciousness she stated that she had considerable swelling of the private parts, but that she had not mentioned it because she thought this was one of the ordinary occurrences of pregnancy. Hence it is important in all doubtful cases to question the patient closely on the subject of oedema.

Again, in a primiparous woman the occurrences of persistent headache with giddiness should arouse

our suspicions, and cause us to examine the urine, and this especially as time goes on, when dimness of sight, amounting almost to complete blindness, is apt to take place. Another very unfortunate symptom is the occurrence of late sickness. This, in the presence of albuminuria, is often attended by fatal results. It should be remembered how the retinitis is met with more often in the albuminuria of pregnancy than in that of the non-pregnant state.

With regard to the course of the disease, in the slighter cases the albumen may remain small in quantity, or may disappear, or, on the other hand, increasing, may lead to the dangers to which we have alluded. But the course of the disease depends very much upon the varieties, and we may say of these that the symptom may be transient and slight, or large and increasing in quantity, and the albumen increasing coincident with the diminishing urea, is always a serious condition. Then, as to the occurrence of the oedema with the albuminuria, this again helps us with regard to our interference or not.

With regard to prognosis, this has to be considered as to the present pregnancy—as to future pregnancies and as to a continuance of the disease or not after pregnancy has concluded. First, as to the present pregnancy: our prognosis here depends much upon the quantity of albumen and its increase or decrease under treatment, though in cases where casts are found the symptom passes off after emptying of the uterus, still their presence renders our prognosis more serious than when they are absent. It is well to remember also that the appearance of albumen in the early months of pregnancy is more serious than when it appears only in the later months; but on the whole, and bearing in mind what we have to say in regard to treatment, our prognosis as to present pregnancy may be said to be favourable. As to future pregnancies, there is no doubt that there is a great tendency for the symptom to recur, and believing as we do, that the pregnant state is often the condition which brings out the latent kidney trouble, a very guarded prognosis must be given and the patient carefully watched, the urine being examined at intervals during subsequent pregnancies. As to continuance of the disease we may in many cases predict the absolute recovery of the patient, but it is well to wait from three to six months before a final opinion is given; it sometimes happens that the albumen disappears entirely at first, and after

a time returns again, and continues for a variable period.

With regard to the treatment. The treatment of albuminuria is much the same in pregnancy as at other times, that is to say, as far as diet and medicine is concerned; to promote the action of the skin, increase diuresis and promote extra activity of the bowels are well-defined rules of treatment. At the same time, the diet should consist largely of milk, and the avoidance of all albuminous food, and this as far as can be maintained, keeping in mind the patient's general condition, is at first the main treatment. The patient improving, we may then administer some form of iron, and watching her carefully, allow the case to go on if possible until the child is viable; but no matter at what period of the pregnancy, if the symptom increases, or if the general condition of the patient does not distinctly improve, then bearing in mind that in many cases the albumen disappears soon after the termination of the pregnancy, the question of its premature conclusion must be seriously entertained. Hence the preventive treatment to avoid danger to the patient is the provocation of premature labour or even abortion, and this in most cases at once relieves the urgent symptoms: the albumen disappears, the sight is restored, and the patient is brought from a state of danger to one of safety.

The treatment may then be said to be, to attack the symptom by appropriate measures, to keep the patient at rest, and watch her closely, and be prepared to act if the albumen increases, or the general condition of the patient is not an improving one. And to carry out this plan regardless of the time at which the pregnancy has arrived, if the state of the patient justifies us in doing so. Of course in the cases seen later at the stage when retinitis or other serious symptom is present, the bringing on of premature labour or even abortion becomes an immediate and urgent necessity.

With regard to the after-treatment, this of course depends upon the persistence or not of the albuminuria. In the cases in which the disease is involved with that of chronic Bright's disease, the condition remains, and has to be treated as an ordinary case of nephritis.

In all cases the risk of pregnancy should, as far as possible, be avoided for at least one or two years. As it is especially when the pregnancies follow each other in rapid succession that the recurrence of the albuminuria is likely to happen.

In conclusion, the points that I would desire

especially to impress upon you are the diagnosis of the condition as early as possible. And for this the more frequent examination of the urine, especially in primiparous women, for the detection of albumen is to be advised. Next, close questioning these women as to the occurrence of early œdema, and finally, if the albumen be discovered, the patient to be carefully watched and treated; and unless the amount of albumen *decreases*, or remains stationary, the patient's general condition otherwise being good, then the case must be looked upon with anxiety, and the question of emptying the uterus carefully discussed and carried out. The termination of the pregnancy being the only real safety to the patient.

A CLINICAL LECTURE ON GRANULAR LIDS AND THEIR TREATMENT.

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THE old man whom I am about to treat for Granular Lids says his eyes have been affected for fifty years; this, perhaps, is a rather longer case than one often meets with, but otherwise it does not differ from the average of those one sees here daily. If the treatment I am about to adopt succeeds in curing him permanently, as it has done in many other cases I have treated during the last three years, I am sure you will be anxious to try it on the first appropriate case you meet. You will observe that I say "appropriate case," for in granular lids, as in so many other diseases, the same treatment cannot be applied to each and every case, therefore I will first say a few words about the various kinds, or rather various stages, of granular ophthalmia.

It may begin as a muco-purulent or purulent ophthalmia of an epidemic character, as a follicular ophthalmia, or in a dry form, with well-marked trachoma as its chief feature: though eventually, if the disease is allowed to run its course, all three varieties will be indistinguishable.

When it is possible to make a diagnosis in the very earliest stage of the first variety, that is almost before the discharge commences, it will be found that a single thorough application of solid sulphate of copper often suffices to cut short the disease. The crystal must be well rubbed over the everted lids, and also underneath them, so as to get into the bottom of the cul-de-sac, especially the upper one. If this stage of the disease be allowed to pass, as it probably will, unless in rapidly spreading through a confined community, the surgeon's suspicions as to its nature are aroused, then it will be impossible to do anything more than treat the subsequent mucopurulent or purulent discharge by germicide applications. The best of these are nitrate of silver, perchloride of mercury, sulphate of copper, and chloride of zinc. The silver may be used either as the mitigated stick or in solution, 5, 10, or 20 grains to the ounce. The mercury either as a 2 or 4 per cent. solution; the copper as the *lapus divinus* or the solid crystal. All these must be applied by the surgeon, whilst the patient may use a weaker solution of mercury, 1 in 500 or 1000, or the copper as an ointment, 2 or 4 grains to the ounce of vaseline, or the chloride of zinc as a lotion, 2 grains to the ounce. Nitrate of silver I do not entrust to the patient, as it may be used to excess, until the conjunctiva is permanently stained.

This daily treatment should bring about a cure at this stage; but if granulations arise amongst the hypertrophied and villous conjunctiva, then it may be necessary to resort to the method known as "*brossage*," which I will presently describe. At a still later stage, when the shaggy-looking conjunctiva has smoothed down, and only trachoma and scar tissue are to be seen, the treatment will be the same as for the other cases.

When the granulations begin as enlarged follicles, it is often impossible to differentiate between true follicular and granular ophthalmia; except when the affection is caused by the use of atropine or eserine. When in doubt as to the nature of the case, it may be treated exactly like true trachoma, viz., by squeezing out the follicles with forceps, as I shall presently show you, and the subsequent use of perchloride of mercury.

Where a diagnosis of follicular ophthalmia has been made, the treatment may be of two kinds. The first by the use of weak antiseptic lotions such as chloride of zinc, half or 1 grain to the ounce, or perchloride of mercury, 1 part in 2000, or sulphate of copper ointment, 2 grains to the ounce

of vaseline; at the same time any error of refraction must be corrected, and the glasses worn constantly until the cure is complete. Besides the local treatment of the eyes, the general hygienic surroundings of the patient must be attended to—all vitiated atmosphere must be avoided; bed and dwelling rooms be well ventilated, plenty of outdoor exercise prescribed, and if possible a sea voyage or a residence in dry mountain air ordered. This change of climate often secures a complete recovery where other means have failed. These means, though more lengthy, are in many cases all that is necessary, and they have the advantage of not stopping the patient's work or causing much discomfort. Since follicular ophthalmia leaves no traces of its existence behind, it is not generally necessary to treat it vigorously; but should such a necessity arise, then the same treatment as I adopt in true trachoma must be carried out.

When the disease begins with trachoma and the history points to a recent infection, the granulations may be quite few in number: in such a case it may be possible to destroy each granulation separately by the galvano-cautery, or by the sharp point of a crystal of sulphate of copper, which must be bored into their centre.

Should the granulations be numerous and disseminated amongst scar tissue, a more general method for their removal must be adopted. This is attained by the modern methods of "expression" or "*stripping*," as the Americans designate it, and it is to them that we are indebted for this plan of treatment. The thumb-nails were used by the originator of the idea, but this was improved upon when few could be found to adopt that plan, and forceps were made for the purpose. I am indebted to my old pupil, Dr. Graddy of Nashville, for the forceps which you will see me use, and as he devised this pattern I have called them after him; he also introduced the method to my notice about three years ago, and I have used it ever since with certain modifications.

The forceps, you will see, consist of two smooth curved blades shaped somewhat like a hockey-stick, or rather two sticks, with their crooks in contact. Where the blades meet, the surface is rounded so as to glide over the conjunctiva, and not cut or tear it when they grip the lid. They are made by Messrs. Weiss.

Other forceps have been devised for the same purpose, but are not superior to these. Dr. Knapp of New York uses a pair made with a pair of grooved

rollers at the ends, so as to crush the tissue of the lids as well as to squeeze out the granulations.

Our patient has had several drops of a two per cent. cocaine solution instilled into both eyes during the last half hour, and now that he is lying on the operating couch with the conjunctiva fairly anæsthetic, I proceed to evert the upper lid; but as a solution of cocaine does not act efficiently on an inflamed surface, I dust the whole of the everted tarsus with finely-powdered cocaine, which I also insert in the upper cul-de-sac. This I can readily do by seizing the everted lid between the blades of the forceps and giving it another turn over. By this means I expose the whole of the conjunctiva from the corneal margin to the free edge of the lid, and you will observe that in this instance the granulations are confined to the surface of the tarsus and to its attached margin. I wait a minute for the solid cocaine to act, and then seizing the lid again as I did just now when exposing the cul-de-sac, so that the double thickness of lid and conjunctiva lies between the blades of the forceps, I squeeze firmly, and at the same time withdraw the forceps. You observe that the jelly-like contents of the trachoma is pressed out, mixed with blood and serum. I repeat this manoeuvre until the whole of the conjunctiva appears to be free from trachoma; and now that the blood has been washed away the conjunctiva is seen to be smooth, except for numerous hæmorrhagic-looking depressed spots, the former seat of the granulations. In carrying out this little operation, it will be noticed that the pain was not very great, and I have many times done it on young children without producing much discomfort. I draw your attention to this point as most of the foreign ophthalmologists consider a general anæsthetic absolutely necessary.

Another point is the protection of the operator's own eyes from any of the blood or tissue which occasionally flies off the forceps as they slip from the edge of the tarsus; this is an accident which happened to one of Dr. Graddy's colleagues, and to avoid it the surgeon should wear a pair of large dome-shaped clear glasses, which come close to the face around the orbit, he should also stand behind the patient and draw the forceps away from himself. It is perhaps unnecessary to remind the operator to wash his hands in perchloride after handling these cases.

At the end of the operation, the eyes having been cleaned with perchloride lotion 1 in 2000, a pad

with boric acid ointment may be applied to the closed lids, or an ice pad laid over them. On the following day the patient will present a totally different appearance, the half-closed lids will be wide open and the discharge, which may have been very abundant, will have practically ceased, and the whole condition of the eyes greatly improved.

But now this improvement must be maintained, and here a line of treatment originated by Dr. Kenneth Scott, of Cairo, one of my former clinical assistants, is of the utmost value—it consists in the application of a four per cent. solution of perchloride of mercury, dissolved in glycerine and water, to the affected conjunctiva. The lids are everted, and the solution is brushed over the tarsus, and, if necessary, into the cul-de-sac as well. This is repeated every day or every second or third day, according to the severity of the reaction produced. Cocaine solution is not of great service in allaying the pain caused by the perchloride, but toleration is soon established, and also quickly lost, for if for any reason the treatment be intermitted for some days, the patient always complains greatly on its renewal. For personal application the patient is provided with a similar lotion, but only of the strength of 1 in 500; with this he bathes his eyes three or four times a day, getting it well in between the lids. These remarks apply equally to young children, some of whom submit to the treatment without crying. Within a few days, or at the most within a few weeks, marked improvement will be noticed; if there be a pannus of the cornea, it will begin to clear up, and within six to eight weeks the patient can be discharged cured. When there is active ulceration of the cornea, this treatment is not well borne, and nitrate of silver should be substituted until the cornea has become vascular.

If the case be one of very long standing the trachoma may be placed deeply beneath the epithelium, and then it will be necessary to cut through the overlying tissue before applying the forceps to squeeze them out. This is done by making longitudinal incisions parallel with the edge of the lid, through the conjunctiva, into the subconjunctival tissue; the incisions must be about one-sixteenth of an inch apart, and should be only made over the part that appears to be affected, and which looks as if it were infiltrated with a jelly-like substance.

If, instead of simply squeezing out the granulations through the incisions, the surface of the lid

be vigorously brushed with a stiff tooth-brush dipped in a 1 in 500 perchloride solution, so that the granulations are scrubbed out, then the French process of "brossage" has been accomplished, only the scarifying process is much more extensively performed, so that the whole of the palpebral conjunctiva as well as that of the cul-de-sac near the tarsus is freely incised. As this is a painful proceeding the patient had better be anæsthetised. The reaction following this treatment is much more marked, and the swelling of the lids is generally so intense that it is impossible to evert them for a few days. Still, if this cannot be done, a solution of perchloride should be passed by a brush or other means well under the upper lid, into the cul-de-sac, in order to avoid the formation of adhesions between the palpebral and ocliva conjunctiva. When the lid can be everted a white membrane is usually found covering the abraded surface, and on its removal the perchloride solution must be applied. It is claimed for this treatment that the cure is complete in from two to three weeks or less, but I notice that in all the published cases no mention is made of a pannus being present, consequently I gather that the cases thus treated were mild ones.

This plan of treatment would be applicable to those cases where the conjunctiva is much thickened and very velvety, and the trachoma invisible, but under the microscope are found situated very deeply.

Under no circumstances will you find it necessary to excise the retrotarsal fold of conjunctiva, a proceeding as barbarous as excising the whole row of lashes for entropion. Neither is it necessary to remove a strip of the conjunctiva from around the cornea (peritomy), cauterisation of the vessels of the pannus as they enter the cornea with the galvanocautery being just as efficient.

Still less is it necessary to inoculate an eye suffering from granular ophthalmia with pus from a purulent ophthalmia; and our experience at Moorfields with jequirity was not sufficiently encouraging for me to recommend it in face of the newer methods I have shown you to-day.

To recapitulate, when granular ophthalmia begins with a discharge it may be cured in the very earliest stage by sulphate of copper; if allowed to pass on to a purulent inflammation, it will require a lengthened treatment with strong perchloride or nitrate of silver lotions, etc., and if this does not cure it, "brossage" will be indicated.

Should follicular enlargement be the principal feature, the diagnosis between follicular ophthalmia and granular ophthalmia may not be easy; if the follicles are clearly irritated by the use of some drug, then leaving it off and applying some mild astringent lotion is indicated. When the cause is not to be found, two plans are open:—to treat the case mildly with weak germicide applications, and attend to the hygienic surroundings, which will procure a slow recovery, or to resort to vigorous measure, viz., the application of strong mercury, silver, copper, or zinc medicaments alone, or combined with "expressing" of the follicles.

When the granulations are on the surface, "stripping" is to be adopted, unless they are very few in number, when they may be destroyed individually, either by the sulphate of copper point or the actual cautery. Should the conjunctiva cover the granulation tissue, incisions will be necessary to expose these deep lying masses, and then simple expression with Graddy's forceps may suffice, or the new tissue may be brushed out with a tooth-brush dipped in 1 in 500 perchloride of mercury lotion, "brossage."

In either case the continued application of a 4 per cent. solution of mercury for some days or weeks will be necessary to procure a complete clearing off of the pannus, and a restoration of the palpebral conjunctiva.

CLINICAL NOTES

(Specially reported for *The Clinical Journal*. Revised in each case by the Author.)

SOME CLINICAL OBSERVATIONS MADE BY DR. GOODHART IN THE WARDS OF GUY'S HOSPITAL, NOV. 11th., 1892.

On early Tapping in Serous Effusions of the Pleura.

This patient was admitted here on July 20th, 1892, with a pleural effusion. He has since admission been tapped three times in all, at intervals of three or four weeks. On the first two occasions a clear serous fluid was withdrawn; on the third occasion the fluid was of a puriform character, necessitating the ordinary surgical procedures for an empyema.

I do not personally believe, as a general rule, in tapping too early in cases of serous effusion into the pleural cavity, because in the first place the fluid re-accumulates with rapidity; and in the second place there is, to my mind, no clinical evidence that these serous effusions are more liable to become empyemata if left alone, or to seriously injure the lung. The history of this case certainly illustrates that point. He was tapped early; the fluid re-accumulating he was tapped again, the fluid still remaining serous, and yet on the third tapping pus was withdrawn: it had become an empyema.

A great deal too much stress is laid upon the question of early tapping. As a matter of fact fluid in considerable quantities may remain in the chest for several weeks, and yet when it is removed the lung will recover perfectly.

My rule in cases of serous effusion is to tap only when (1) the effusion is very considerable in amount, (2) when the viscera are displaced by it, and (3) when symptoms of urgency arise. I always wait and watch in the absence of these conditions, and even with these conditions present I postpone tapping so long as possible should there be much fever, as then the fluid re-accumulates with extra rapidity, and sometimes is apt to coagulate and cause a difficulty in performing the operation.

The question of absolute rest in bed with starvation diet *v.* moderate exercise and moderate diet in the treatment of Aortic Aneurisms.

When you have made your diagnosis that the patient is suffering from Aortic Aneurism, without such urgent symptoms as absolutely indicate complete rest in bed, the question arises as to whether the patient shall be sent to bed for a long period, in the hope of bringing about a cure, or shall be allowed moderate exercise. I am now entirely against putting a patient to bed for a long period, and limiting his diet to what may be called "starvation diet." The confinement I regard as not only irksome to the patient, but positively detrimental to the tissue nutrition; and the "starvation diet" I condemn for the same reasons, except as regards limiting the quantity of fluid to be drunk.

You will remember the case of a subordinate official of this hospital, who, for two and a half years after he was diagnosed to be suffering from aortic aneurism, continued to perform the light

duties of his position up to his death. I believe that complete rest in bed on the strict diet would not only have failed to prolong his life, but such treatment might have even shortened his life.

I should give such a case a liberal diet as regards nitrogenous material and fats, limiting strictly the liquids; and I should advise moderate exercise and moderate occupation, taking care to strictly define what I mean by "moderate."

Aneurism of the aorta is but seldom cured. We have so little knowledge in this particular class of case as to the conditions which make for cure, such as the size of the orifice of the sac, the roughness of the sac walls, etc.; that I believe it should be regarded as incurable, and would treat it as one would do a case of aortic regurgitation.

Salicylic Intoxication in young children.

When administering salicylate of soda to young children, it is necessary to watch its effects with care, as it occasionally produces in them a very alarming condition of pallor, delirium, and dryness of the tongue.

Some years ago a child of about 5 was under my care in this hospital. Salicylate of soda being given, she passed into a condition of this kind, the symptoms being so urgent that I feared she would die. The drug was stopped, and all the symptoms subsided. Not being at all sure, however, then that these symptoms were due to the drug, it was repeated, the child being carefully watched, and the symptoms all recurred, though in somewhat milder form.

As to dosage, five grains given three or four times a day is a full dose for a child of 5 or 6 years of age. When given, the patient should be watched with care, so that on the first appearance of symptoms of drug intoxication, the dose may be diminished, or the drug discontinued. Understand me; I do not say that five grains administered in this way to a child of this age is *necessarily* too large; but calling this and other cases to my mind, I should urge you always to watch the action of the drug carefully.

Chronic Bronchitis. (Ferraud, *L'Union Médicale*):

| | | | | | |
|----|------------------------|-----------------------------------|-----|-----|--------|
| R | Picis. Liquid. | ... | ... | ... | gr.xx |
| | Pulv. Ipecac. et Opii. | ... | ... | ... | gr.xxx |
| | Pulv. Benzoin. | ... | ... | ... | q.ss |
| M. | Ft. pil, No. xxv. | One to be taken four times a day. | | | |

FORMULÆ.

Some Methods of Abortive Treatment of Acute Coryza:

Dr. Seiss, in Hare's "System of Practical Therapeutics," recommends the following treatment when the case is seen at a very early stage:—

(1) Drop into each nostril from three to five drops of a five per cent. cocaine solution.

(2) After giving it some five minutes to produce the full effect, spray out each nostril with some mildly antiseptic solutions, such as—

R Listerine (Lambert) ... ℥iv
Acidi Borici ... gr.xx
Aquæ Rosæ ... ℥iv

M. Sig. Use in atomizer.

(3) Spray out the nostrils with the following solution, after making sure that nasal respiration has been re-established by the previous steps:—

R Menthol. ... gr.ijj
Camphor. ... gr.v
*Albolene. (liquid) ... ℥j

M. Sig. Use in atomizer.

(4) Internally administer at bed-time from one-twelfth to half gr. of morphia, together with some hot whisky lemonade.

Gelsemium in Coryza. (N. Y. Med. Rec.):

Dr. John Auld speaks enthusiastically about the excellent results obtained in light, mild, or severe forms of "bad cold," by the following treatment:—

"Ten drops of a reliable fluid extract of gelsemium are dissolved in three ounces of water, and of this mixture the patient takes a teaspoonful every ten or fifteen minutes for an hour, then at less frequent intervals, according to the effects produced. The plan is simple, the medicine harmless in the dose recommended, and not at all unpalatable."

According to Dr. Auld this treatment "arrests profuse nasal secretion, quiets headache and neuralgia, subdues cough and pain," and in fact quickly relieves the symptoms of a "bad cold."

Coryza. (Bulletin of Pharmacy):

R Salol. ... 1 part
Acid. Salicyl. ... 20 parts
Acid. Tannic. ... 10 parts
Acid. Borac. (Pulv.) ... 4 parts

M. One pinch should be taken into each nostril at the commencement, and then every hour for eight hours, *but not longer.*

* In place of this, paroline will do equally well as an oily vehicle.

Salicin for Pelvic Pain. (Med. and Surg. Reporter):

Cheron states that in pelvic pain during the course of metritis or salpingo-ovaritis, as well as in pelvic cellulitis and peritonitis, particularly if these troubles are associated with rheumatism, that salicin is of value. In those women who after the menopause have uterine pain and discomfort in the lumbar or sacral region, with occasional flushes of heat and neuralgic dartings, a careful interrogation as to any history of rheumatism should be sought for, and if this disease is found to be present, salicin is administered. The dose which he ordinarily recommends is fifteen grains, to be divided into three parts. Very soon after the administration the pain decreases. One part should be taken in a capsule morning, noon, and night, with a glass of water to prevent irritation of the stomach.

Intra-uterine Injections of Glycerine to stimulate Contractions of the Uterus. (Med. News):

Pelzer ("Archiv. für Gynäkologie") reports a number of cases in which intra-uterine injections of glycerine were employed to stimulate contractions of the uterus, both in premature labour and labour at term. From an ounce and a half to three ounces of glycerine were by means of a syringe and a catheter, introduced between the membranes and the walls of the uterus, as high as possible, without rupture of the membranes.

Prophylactic for Tonsillitis:

The following is recommended for use by those persons predisposed to the development of tonsillitis:

R Olei Menth. Pip. ... ℥viii
Acid. Carbolic (crystal.) ℥j
Spt. Vini. Rectificat. ... ℥ij

M. Ten drops to be added to a cup of warm water, and this solution used as a gargle night and morning.

For Fœtid Breath. (Journ. de Méd. de Paris):

R Thymol. ... ℥j
Sodæ Biorat. ... ℥ij
Alcohol. ... ℥ij
Aq. Destillat. ... ℥iiss

M. Ft. garg. To be used several times daily as a gargle.

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WEDNESDAY, NOVEMBER 30, 1892.

A CLINICAL LECTURE

ON

A CASE OF ANGINA PECTORIS AND CHRONIC HEART FAILURE.

Delivered at Middlesex Hospital Medical School,

Nov. 4, 1892,

By DOUGLAS POWELL, M.D., F.R.O.P.,

Physician to the Hospital.

GENTLEMEN,—I want to make a few remarks on a case about which I lectured on a former occasion, but which was not then complete in all its points. I will therefore briefly run over the main features of the case again, and finish up by reference to its treatment.

The case is that of a man, 58 years of age, who came into the Hospital on May 4th with signs of heart failure, and a history of attacks of pain in the region of the heart. His history was as follows: he was a bootmaker by occupation; he had rheumatic fever thirty years ago, and two attacks of rheumatic gout in the feet and knees since. He had gonorrhœa and sore throat about forty years ago, when about 18 years of age, but there is no more definite history of syphilis. There was nothing bearing on the case in the family history. The history of his present illness is taken up about three years previous to admission, when he began to suffer from sudden pains in the region of the heart, extending to the shoulder and down the arm on the left side. This pain recurred at regular intervals; was generally accompanied by profuse sweating; and left the patient in a state of utter prostration. The last attack occurred three months before admission, and was a very severe one. Up to the time of this last attack he had no other chest symptom; in fact he did not feel ill, and continued at his work. But from the time of this last attack he suffered from cough and shortness of breath, especially when he lay down at night. This state of things became more noticeable for the last month or so before admission; and he observed that his legs were becoming dropsical. He was unable to walk, and after his last attack was compelled by the breathlessness and other

symptoms to give up work. Yet in spite of rest they became worse.

On admission it was noted that he was grey-haired, rather thin, with dilated capillaries and somewhat livid colouring of face. His breathing was very distressed, and he had to sit in bed propped up by pillows. There was considerable œdema of the feet, ankles, legs, scrotum, and sides of the body, together with signs of a small amount of fluid in the abdomen. The pulse was 120 per minute; small, weak, but regular, and of low tension, that is to say, it was easily compressible. This latter fact should be especially noted as an interesting and important feature in this case. Physical examination showed the area of heart-dulness to be increased, especially to the right and downwards. The impulse was weak, diffused, and muffled. The heart sounds were muffled. No murmur was detected, but the first sound was slightly prolonged. The respirations were 35 per minute. The lungs were somewhat emphysematous, and there were signs of slight consolidation at the right apex, and of slight pleuritic effusion at the left base. Some bronchial and coarse œdema rales were audible on the right side posteriorly. The liver could be distinctly felt below the costal margin. The urine had a high Sp. gravity, 1030; was acid in reaction, contained a trace of albumen, but no sugar, and was somewhat less in quantity than usual.

The most important facts of the case were, therefore, that the patient had an enlarged heart, associated with a readily compressible, low tension pulse, dropsical extremities, and engorged viscera.

Three days after admission, on the 7th, he was reported to be somewhat better, but the sputa were slightly stained with blood. From that time he varied, being sometimes better, sometimes worse. On the 12th May, at four o'clock in the morning, he had a distinct anginal attack. The house physician was called to him, and found him complaining of great pain in the pericardial region, spreading from there to the left shoulder and down the left arm. His breathing was short and laboured, his face distressed-looking, pale, and streaming with perspiration; the pulse scarcely perceptible, and *very hard* and thready. You may remember that on admission it was described as compressible and soft. Nitrite of amyl produced great improvement

in the pulse. It became fairly full and fairly soft, but the symptoms did not greatly abate. He was placed in a chair, and commenced to recover; in the morning the pain had gone, leaving some soreness behind. On the 13th he had a very slight attack, which is not worthy of note. On the 14th he had another rather severe attack in the night, having the same characteristics—the sweating almost more marked than before. On the 15th he awoke suddenly out of sleep at about four in the morning, gave a few groans as if in pain, struggled slightly, and was dead in a few minutes.

At the autopsy we found the conditions which had been clinically observed. There was some fluid in the left pleura; some enlargement of the liver, 56 ounces of fluid in the abdomen, and notable enlargement of the heart. The enlargement of the heart, as you will observe [showing to the students the specimen on the table], although really on both sides, is chiefly of the left ventricle. The valves are practically sound, but the auriculo-ventricular orifices especially on the right side are dilated, the texture of the thickened ventricles is firm, and the change is one rather of fibroid than of fatty degeneration. There is some atheroma scattered about the aorta, but to no very great extent. On looking at the coronary arteries, it is found that the right one is notably small, and the left one of about the natural size. On tracing the arteries further we find that the left coronary artery, which was the more open, is considerably thickened, and rather less than an inch below its commencement is occluded by clot. The right, which was the small one, is slightly atheromatous; for some little distance it is open, and then it too becomes occluded by clot. These are the chief points about the heart which I will get you to look at after the lecture. The kidneys were rather large and dense, but not much changed.

Firstly. Let me speak of this case as one of typical Angina Pectoris of that variety—*Angina Pectoris gravior*—which some physicians still regard as the only true form of angina.*

* In his paper on Angina Pectoris, introductory to a discussion on the subject, at the Medical Society of London (*Trans.* vol. xiv.), Dr Powell accepts the following four varieties of Angina Pectoris as clinically and pathologically valid, viz:—

1. Angina Pectoris Vasomotoria—in which acute vasomotor spasm causes a sudden and distressing demand upon a sound heart.
2. Angina Pectoris Gravior—in which a similar mechanism similarly taxes an unsound heart.
3. Primary Cardiac Angina—excitation to cramp of the

It is a case, typical of its kind in regard to the character of the attacks. The first attack was three years ago; one or two have occurred since then, the attack three months ago taking place quite suddenly. Cardiac failure steadily progressed from that time onwards, but without further attack until the last series of one, two, three attacks followed one another in quick succession, the last one ending fatally, and with appalling suddenness.

It was typical too in regard to the character of the pulse. Angina Pectoris has two essential factors, one is the sudden narrowing of the small vessels, by contraction of their muscular walls in obedience to vasomotor stimuli of various kinds, producing rapidly increasing resistance in the circulation and correspondingly severe call upon cardiac effort. The second factor is furnished by the condition of the heart itself, whence is derived the force which has to keep the circulation going under all circumstances. If the heart be a sound one, it will certainly pull itself together, and by extra work for a few minutes, perhaps in a disorderly and painfully embarrassed way, will maintain the circulation. There will be great palpitation and cardiac distress before it rights itself. These cases are very common in early and middle life, are never fatal, and come under the denomination "Vasomotor Angina." If the heart be a weak and degenerated organ such as this is, then the result of the sudden call upon such a heart is much more serious, and it is only a question of degree whether the heart failure, which will occur as the result of the extra strain, shall be directly fatal, or whether it shall with difficulty recover itself to be overcome at some later attack. In this case, therefore, we have the two causes of Angina Pectoris, sudden increase in arterial tension with diseased heart texture.

This instance of Angina Pectoris is typical also in the cardiac lesions, which render the heart disabled, viz., a restriction of the blood supply to the heart, from narrowing or occlusion of the coronary arteries and consequent changes. Roughly speaking, 50 per cent. of this form of Angina Pectoris gravior have for their precise pathology the narrowing of the coronary arteries. The rest, being made up of

heart directly through the cardiac plexus, or from sudden anæmia of tissue, e.g., embolism of coronaries.

4. Syncopal Angina (including Vagus Angina Pectoris of Ross), a prolonged intermittence of beat sometimes observed in old degenerated hearts.

The first two classes are by far the more numerous and important; the first rarely if ever fatal, the second sooner or later always so.

other forms of diseased heart and aorta, viz., aortic regurgitation, dilated aorta, aneurism of the ascending portion, fatty degeneration of the heart. Narrowed or occluded coronaries is the chief pathological factor of the disease. In this instance we have, as you see, both arteries occluded by thrombosis, although not in the same proportion, one near the commencement, and the other lower down. Of course it is improbable that three years ago this condition existed, though the narrowing no doubt commenced at that time, the heart becoming gradually stunted of arterial blood supply, so that its tissue could not be properly nourished, and its metabolism maintained.

It is a notable fact that although this heart has been starved of the proper blood supply, yet it is a big thickened heart, weighing more than normal. That is, however, quite in accordance with what we observe in the heart, and in many other organs. When the proper texture of the organ is unable to be maintained in due nutrition, some other tissues take the opportunity of undergoing more or less overgrowth. Here the thickening of this heart is almost entirely due to fibroid tissue growth of a low type, partly replacing and compressing the normal muscular fibres.

Under this microscope you will see well illustrated from sections kindly prepared by Dr. Voelcker, the way in which the muscular fibres are interrupted and intruded upon by the fibroid tissue, and also the hyaline degeneration they have undergone. Under these other microscopes you will also see depicted the coronary lesions.

Secondly. This case is a good example of a heart which from its *intrinsic weakness* yields before the normal resistance which it has to overcome in maintaining the circulation.

Met with as a temporary condition in many diseases, as in anæmia, acute fevers, pneumonia, asthma, etc., this state of cardiac failure when it comes on as a consequence of degenerative changes in the heart muscle, is perhaps the most fatal form of heart disease with which we have to deal. The fact that this form of cardiac failure is commonly unattended with any valve lesion giving rise to auscultatory signs, makes it the more readily overlooked. It is in association with angina that it is most commonly encountered, and in its downward course anginal symptoms generally sooner or later present themselves. Again, it is upon the evidence that this form of cardiac failure is in progress that the prognosis of Angina Pectoris gravior depends,

separating it out from the more purely functional and remediable cases of Vasomotory Angina. The keynote to the situation rests therefore with the heart signs, and the points to make out in clinical diagnosis are (1) whether the heart is enlarged, and if so (2) whether there is any mechanical cause present to account for this enlargement.

In making a physical examination of such a case you should first ascertain the site of the apex beat by inspection, palpation, and, if necessary, by auscultation. Then note if the impulse be normal or abnormal; as a rule in these cases it is diffused. Map out the area of the heart's dulness and listen carefully for any abnormality of the heart sounds indicative of valvular disease. If there is valvular disease, the enlargement may at once be explained as compensatory. In many of these cases although you do not find a murmur, yet the first sound is not quite satisfactory; it is not a clear perfectly defined sound. At the same time note the state of the arteries, if they are hard and incompressible. If there is a history that they have been so for any time, we have another mechanical cause likely to produce enlargement to compensate for increased circulatory resistance.

What were the results of such an examination in the case we are now discussing? They were as follows: the apex beat though lower than normal, was not outside the nipple line; the impulse was weak and diffused; the area of heart dulness was enlarged; there was no valvular disease, or other mechanical obstruction in the form of rigid narrow arteries. We learnt therefore that the patient had a large heart, without a corresponding increased power, which is an important feature. We found symptomatic evidence of heart failure in the œdema present in the legs and elsewhere.

Briefly to enumerate the causes of heart enlargement and to come to a diagnosis of the cause in this particular case:

(1) *Valvular disease.* He had nothing of the sort; nothing to explain his enlarged heart from this cause.

(2) *Chronic emphysema.* It is true he had some emphysema, but from his history of a cough of only three months' duration before death, it is impossible to imagine the enlargement to be due to this.

(3) *Renal disease,* especially in the form of contracted kidney with arterio-capillary fibrosis (a condition always attended with enlarged heart, and in which, in the later stages, cardiac failure of the

kind now under consideration, plays a conspicuous part). Though the urine contained a trace of albumen, it was of high Sp. gravity, and the arteries were not those of contracted kidney.

We came, therefore, to the final conclusion that the case was one of enlargement of the heart, yielding before the blood pressure from intrinsic causes. Now, these are cases of perhaps the worst form of heart disease, and one would say on looking at a heart like that, and with a considerable degree of truth, that there was very little in the way of treatment to be done for him. You may get cardiac failure from breaking down of the compensatory powers of the heart in conditions of valvular defect, and can again and again restore that heart and clear up the symptoms by the aid of drugs, rest, and proper treatment. But when you are dealing with a heart which, from no sufficient cause outside of itself, has yielded before the normal blood pressure, and has failed in its normal functions, then you cannot expect to do much in the way of treatment. This is doubly so when dropsy has occurred. No drugs can be expected to whip up a heart like that, and dissipate dropsy, and put the patient fairly on his legs again. Something may still be done, however, and in treatment we have to consider the cause of the trouble. If we fairly come to the conclusion that symptoms are due to degeneration of the heart tissue, and not from any mechanical reason, then such remedies as arsenic and iron are of considerable value. Arsenic is one of the best heart tonics in cases in which the heart texture is damaged. If we have reason to suppose that there is arteritis present, from the examination of the other vessels, and especially if we have reason to believe that syphilis is a factor in the case, then we may give iodide of potassium with the arsenic and iron. In many of these cases, apart from the actual want of power of heart, there is superadded debility from a want of nerve power in the mechanism of the heart's action that we can often estimate. In these cases the most useful drug is strychnine; two, three, or five minims three times a day, very greatly help the patient sometimes.

So much for the cause. Now for the mechanism. In cases where the anginal symptoms are dependent upon a sudden spasm of the small vessels of the body, telling back upon a weak heart, we have two most valuable remedies: one is nitrite of amyl, which is a drug of almost instantaneous effect in controlling spasm of the small vessels, causing them to dilate,

and thus diminishing the increased resistance to the heart's action. Nitro-glycerine is the other vessel anti-spasmodic. The way in which nitrite of amyl is given is invariably by inhalation, five, seven, or ten drops being put on a handkerchief and the patient directed to inhale it. You know the effect—it causes a rapid flushing of the face by dilating the small vessels. Nitro-glycerine is rather slower in its action, but much more abiding. It is usually given in 100th of grain doses, in the form of little tabloids or chocolate sweets. My own experience is that this is not nearly so good a way of giving the drug as in the form of solution, and I almost invariably give it in the form of a solution, containing one per cent. of nitro-glycerine, the dose being from half a minim to five minims. People vary greatly in their sensitiveness to this drug. Some will have a violent headache from the smallest dose, so that it is well to begin to use the drug cautiously, and feel your way. A very good way of giving nitro-glycerine in an acute paroxysm is to give half minim doses with ten minims of ether every few minutes until you have given three or four doses. Besides giving nitro-glycerine to act on the attack immediately, it is often very useful, when there is any increased tension of the pulse, to give, two or three times a day, a small quantity of nitro-glycerine in combination with any other drug you may be using. I give half a minim to one minim, as a rule, three times a day, but have, on occasions, largely increased the dose. No doubt, nitro-glycerine, besides relieving the heart from the increased resistance in general circulation, is also useful in helping to flush the heart. You know very well that in some neuralgic conditions nitro-glycerine is a very valuable drug, its action consisting apparently in relaxing and widening the vessels leading to the nerve centres, and, so to speak, flushing these centres. Similarly, it may be inferred, nitro-glycerine acts in some of these cardiac cases by relaxing (if there be any spasm present) the vessels of the heart, and so helps, if I may say so, to flush the heart with blood, and to preserve its nutrition a little longer. Of course, in a case like that from which this heart is taken, where you have got extensively occluded vessels, it does not much matter what you give, but it might have been different with this patient at some earlier stage of his illness. It is very possible that some of these remedies then administered might have prolonged his life considerably. Then these patients should always

carry about with them a restorative draught containing a dose of nitro-glycerine, the stock prescription one gives them is—

R Spir. Ammon. Aromat. ℥j
 Sodii Bicarbonatis ... gr.x
 Tinct. Cardamomis Comp. ℥j
 Spir. Chloroformi ... ℥xx
 [Cardiac stimulant anti-spasmodic.]
 Solutio Nitro-Glycerini
 (1 per cent.) ... ℥j
 [Vessel anti-spasmodic.]
 Aquam ... ad ℥iiss

The patients are directed to slowly sip the draught on the commencement of symptoms until they have taken it all. It is better to take it slowly than to take it at one single gulp. Other remedies suggest themselves for the attack, hot stimulating local applications, and, in severe cases, opiates, subcutaneously or otherwise. But the more rational treatment suggested is the better, in the first instance, at all events, and often succeeds without the use of sedatives.

In addition to medicinal treatment of these lesions, a most important point is to avoid all causes of arterial spasm—the cause of Angina Pectoris nine times out of ten. See to them, and avoid them. Keep the patients warmly clad and the extremities warm, for chill is a common existing cause of angina. Emotional disturbance is a common cause. We hear constantly of people dying suddenly on hearing appalling news: those are cases of arterial spasm. Constipation is another cause over which we have control. These patients should never be allowed to be constipated. It is a fact, however explained, that even in health constipation increases arterial tension. The bowels therefore must be carefully regulated by some laxative which agrees with them: one of the best things is perhaps one of the saline waters, such as Rubinat, taken in a hot draught in the morning. For other people a dinner-pill or some slight thing of the kind will do. I am often in the habit of prescribing twice a week a saline morning draught equivalent to a moderate dose of Carlsbad salts, with the addition of 20 to 60 drops of Liquor Hydrargyri Perchloridi.

Then the faulty metabolism which leads up to an attack of gout must be carefully guarded against by diet, careful exercise, etc. Make your patients eat slowly. Keep them well within their appetite, and instruct them to eat small meals and at regular

times. An excellent thing is to keep the kidneys flushed by taking a draught of hot water near bedtime or early morning, as the case may be. As to exercise, the worst thing you can do with these people is to shut them up and let them lead torpid lives. Under such conditions, degeneration proceeds more rapidly. Exercise must be taken carefully, and in the open air if possible. They must not distress their breathing by walking rapidly upstairs or up hill. Let them keep well within their powers, but nevertheless order them to take *daily exercise*.

Then the last thing I have to emphasise is, daily rest. The lives of a great many old or weakly people would be lengthened if they would spend one day of every week in bed, but the majority cannot do that. You can insist, however, upon their taking rest at certain times of the day, and the best possible time is before meals. These weak-hearted people should always lie down in a quiet room, and by so doing give their circulation its much-needed rest in the course of the day, for half an hour or so before luncheon, and an hour or so before getting ready for dinner. They thus get their nervous and vascular systems rested just at the time an effort is wanted for digestion. It is very simple, but unless you tell them definite hours they will not follow advice. If, however, you define their periods of rest in the way I have indicated, you will find that they will pay attention to you.

A CLINICAL LECTURE

ON

MEDIAN LAPAROTOMY FOR REDUCTION *en masse* OF INGUINAL HERNIA.

Delivered at University College Hospital, Nov. 1st, 1892

By ARTHUR E. BARKER, F.R.C.S.,

Professor of Clinical Surgery at University College, and
 Surgeon to University College Hospital.

GENTLEMEN,—I desire to draw your attention briefly to a case of Reduction *en masse* of an Inguinal Hernia, on which I operated three weeks ago by median abdominal section, with complete success. The condition is interesting, not only on

account of its comparative rarity, but also because it may be produced by anyone attempting the Reduction of an Inguinal Hernia who does not proceed upon the proper lines. A hernia is said to be reduced *en masse* when the coil of extruded intestine is reduced within the abdominal rings with the sac still investing it and strangulating it at its neck. The sac containing the practically unreduced intestine then comes to lie in the sub-peritoneal tissues just within the internal inguinal ring, through which it may or may not be felt with the finger. The condition is, of course, a most dangerous one, and cannot possibly be relieved without operation. It is generally produced by efforts to reduce the hernia by simple pressure upwards of the whole mass. The proper way, of course, to reduce an inguinal hernia is to steady the neck of the sac with the left thumb and index finger while grasping the whole tumour with the right hand and squeezing it, like an india-rubber ball, rather to empty its contents than to force them in an upward direction. By this means fluid in the sac is first squeezed out, then the congested vessels of the bowel are more or less emptied, and the gut, thus reduced in volume, will often slip back easily.

But when reduction *en bloc* does happen we are not always certain what has occurred. The usual symptoms of moderate strangulation persist, to be sure, after the disappearance of the tumour. But we know that this is sometimes the case when complete reduction of a strangulated hernia has been accomplished in the most approved fashion. In such cases the portion of strangulated bowel has not yet recovered from its paralysed condition, and the symptoms often persist for some considerable time, as though no real reduction had taken place, the patient ultimately recovering, in many cases, without anything further being done. With these latter facts before us we are justified, in any given case where a hernia has been reduced, in hesitating to admit that a reduction *en masse* has necessarily been produced because the symptoms of obstruction continue. But there can be no doubt that, where such symptoms do persist clearly after reduction, it is the surgeon's duty to explore the neighbourhood of the affected inguinal ring by operation, and to satisfy himself as to the presence or absence of continued strangulation.

The only question then is whether to open the abdomen at the ring itself, and deal with the condition, whatever it may be, on the spot; or, to open the abdomen in the middle line, and explore

the ring from within. This was the question I had to decide for myself in the case alluded to. The man was aged 68; he had had a right inguinal hernia for several years, but had never worn a truss. On the Tuesday before admission he had himself reduced the hernia, which was strangulated, with considerable force. As the symptoms persisted he was admitted into one of my beds here on the following Thursday. He was then found to be considerably distended, the coils of intestine commencing to be marked through the parietes. His abdomen was not generally tender, but there was pain and tenderness above the right inguinal ring. The latter was quite empty, both of hernia and sac, but on coughing some soft mass was projected against the finger placed within it. The patient was vomiting greenish-brown matter frequently, which was not offensive: his bowels were confined, and he was unable to pass flatus. As the symptoms were not very urgent then he was kept in bed, with the usual treatment of opium and fomentations. The next day he was much the same, but on Saturday morning it was plain that he was much more distended, and he was vomiting more frequently and a more unpleasant fluid. By this time I thought it was fairly plain that reduction *en masse* was the most reasonable hypothesis, and that the condition in the abdomen ought to be explored. My only doubt was whether to cut down in the groin or open the abdomen in the middle line. But considering the case a little I soon decided in favour of median laparotomy, for the following reasons.

It is notoriously much easier to explore all parts of the abdomen from a median incision than from the side.

This might turn out after all to be a case of "nipping" of the gut without any present strangulation, in which case the damaged knuckle might be found in any part of the peritoneal cavity, and only to be reached from a median incision.

If hopelessly damaged it could be far better dealt with from the latter than from an inguinal incision.

On former occasions I had experienced the difficulty of dealing with gangrenous bowel through the usual herniotomy wound, and also the difficulty of closing the latter (when the knife had to be used freely as is the rule in such cases) so securely as to prevent an almost immediate re-descent of the bowel before the wound had healed.

Again, the necessarily free use of the knife in

searching for a reduction *en masse* from the groin must leave much more permanent weakness at this spot than is left after a short incision in the middle line.

I therefore elected to operate on the Saturday following the reduction in the way which you have seen.

Operation, October 15th, 1892.—Having adopted all the usual precautions to secure perfect asepsis, I made a short incision in the mesial line above the pubes. The first thing seen was a coil of empty, shrunken healthy gut, and parallel with it a distended and congested coil. Running my fingers along these towards the right groin they were both found to enter a rigid ring, and to form a movable tumour beyond this—the size of a small apple. On exposing this constricting ring it was seen to be, as I expected, the neck of the reduced sac tightly embracing the empty or efferent and the distended or afferent coil which ran through it. I now slipped the blade of the scissors under the constricting ring, and with one snip the bowel was released. The knuckle involved was found to be purple from congestion, but otherwise unaffected, and required no further attention. I then turned the sac inside out, tied it tightly close to the internal ring with stout silk, and cut it off close to the latter. The closure of the abdomen then followed in the usual way, and the operation which had lasted fifteen minutes and a half to the last stitch was finished.

Those of you who were near enough to see must have been impressed with the simplicity of the whole procedure, as were my colleagues. For my own part, though I have operated before successfully by the older method from the groin for reduction *en masse*, I should never compare the two procedures. The median operation is much the easiest, and I believe the safest. And while I can hardly endorse the opinion of Mr. Lawson Tait that all strangulated inguinal herniæ should be treated by median laparotomy, I must say from my experience in this and other cases, that in certain instances the median operation would appear to hold out the best prospect of success. I shall always consider his proposition in the future, and hope to profit by it in other cases, as I certainly did in this.

It only remains to say that the patient since you saw him on the operating table has not had a bad symptom, and is now convalescent, and about to leave hospital.

A CLINICAL LECTURE

ON

THE DIAGNOSIS OF DISORDERS OF MICTURITION IN WOMEN.

Delivered at St. George's Hospital, Nov. 23rd, 1892,

By W. R. DAKIN, M.D., B.S.,

Obstetric Physician to the Hospital.

GENTLEMEN,—Those of you who have been regularly attending the out-patient department will have seen many cases in which disorders of micturition of one kind or another have been the main reason for the patient's presence there. You will have noticed that patients have sometimes been middle-aged women with vascular caruncle of the urethra; sometimes the symptoms occurred in gonorrhœal cases. Retroversion of the gravid uterus has also been responsible for one or two cases, and there have been instances of retroverted fibroid uteri; of Bright's disease; and, in one case in the wards, of a calculus impacted in the urethra—each causing some abnormality in the process of emptying the bladder. Troubles in connection with the passage of urine are thus seen to be due to a variety of causes.

I intend to give you a classification of these causes, with their diagnosis. Before I do this, I will mention a few facts of importance about the way in which the bladder acts.

The bladder *fills slowly*, but *empties quickly*. Any want of elasticity, therefore, in the wall of the bladder, or in the peritoneum or connective tissue around it, due to inflammatory or other textural changes, will cause more pain during the sudden change in shape brought about by evacuation of the bladder, than during its gradual distension. This explains the accentuation of the pain of parametritis, for instance, during micturition.

The sphincter-arrangement of the bladder is adequate to ordinary requirements, although it is not a complete sphincter. When it is taken by surprise, it allows urine to escape under some circumstances; for instance, in chronic bronchitis in elderly, generally stout, women, when the bladder is full, or nearly so.

The bladder probably contracts in health only very slightly. Contractions suggest to the owner of the bladder that it is full; and a drop of urine

reaching the urethra causes further contractions, and on relaxation of the sphincter, the bladder empties itself by means of gravity, and the tone of the abdominal muscles mainly. If the bladder or urethra is diseased, or has irritating contents, the former often contracts forcibly even in the absence of distention, and the contractions are then painful; as they are also when a drop of urine reaches the latter from the bladder. Contraction also occurs on irritation of the urethral orifice.

A healthy bladder is almost insensitive, and tolerates a sound readily; and whether full or empty allows a sound to pass about four and a half to five inches. This measurement shows that in the intervals between evacuation, at all events, the bladder is quite relaxed.

When inflamed the bladder is extremely tender on sounding, and is slightly or much contracted, and, as mentioned above, is wanting in elasticity.

The best way of classifying the causes of disorders of micturition is to arrange them in a few clinical groups. They are then readily called to mind while a case is being investigated. You will of course understand that when this function is abnormal the patient does not always make it her chief complaint. She may have her attention directed more urgently to some other element in the case. For instance, in uterine and vaginal prolapse the retention which frequently occurs is often not mentioned unless it is inquired for, as the tumour appearing at the vulva is the more striking incident.

The patient may complain of—

Pain on passing water,
Increased frequency of passing water,
Retention of urine,
Incontinence of urine.

Pain. It is important to find out *where* the pain is felt, *when* it is felt, and its *character*.

Now, diseases of the bladder and kidneys, or of the tissues around them, usually cause pain to be felt in the hypogastric region, or over the pubes, and occasionally over an area extended above and below these parts; urethral diseases, take, for example, urethritis, cause most pain to be referred to the urethral orifice.

Disease in the former situation causes pain before micturition, during it, and very often after it; in the latter, the affection causes pain mainly during the process. Then the bearing-down, dull, often colicky pain of the former class of case contrasts

with the cutting pain caused by urine running over an inflamed and ulcerated urethra.

I do not wish to insist on any sharp division of groups on the ground of pain, but merely to point out the assistance to diagnosis the above considerations may give.

Increased frequency. The increase in frequency may vary from once or twice in the night to every few minutes, especially during the day. In the former case the disease is probably not local, but the frequency is due to the altered condition of the urine, and there is *no pain*, as in diabetes, chronic Bright's disease, hysteria, and some forms of dyspepsia. In diabetes the urine is increased in quantity, and therefore must be evacuated oftener; in hysteria this is so, and the Sp. gr. is altered; in chronic Bright's disease the Sp. gr. is altered. In the latter case there is obviously some inflammatory condition causing the vesical tenesmus, and the *pain* is considerable.

Thus *pain and frequency*, except in the conditions above mentioned, are usually associated, and are then characteristic of a group of complaints either in the structures forming the urinary tract, or in the tissues in close proximity to some part of the tract. These diseases come under the headings of:—

Inflammation,

New Growth—Carcinoma, Tubercle, Caruncle, and others.

Foreign Bodies—Calculus, Hairpins, etc.

They may affect the urethra, bladder, ureters or kidneys; or the vaginal walls, pelvic peritoneum, connective tissue, or the connective tissue surrounding the kidney; foreign bodies of course not being included as causes in the three last situations. I will here add anal fissure as a cause of vesical tenesmus, and also remind you that urine may at the end of micturition trickle on to an inflamed or ulcerated vulva or vaginal orifice, causing intense burning.

Retention and Incontinence. It may seem paradoxical to include these two seemingly opposed conditions under one heading, but those of you who have seen many cases of incontinence in the wards will remember that the bladder is practically always distended, and then incontinence is merely an overflow, due to the inability of the sphincter of the bladder as already mentioned, to resist much pressure. Retention will, if it is not relieved, and the possibility of escape of urine still exists, end in incontinence. It does so in all cases of paraplegia;

in most cases when it is caused by stretching of and pressure on the urethra by the upward displaced cervix in retroversion of an enlarged uterus; in cases of retention after labour, if neglected. In hysterical retention the patient will usually pass it spontaneously, when the discomfort becomes great; and in retention due to retained menses and hæmato-colpos the retention is usually only temporary. However, in some instances the incontinence is not preceded by retention, as in vesico-vaginal fistulæ, in nocturnal enuresis of children; and in chronic bronchitis. Retention of urine of a reflex nature often occurs after operations about the anus and perinæum.

There is one condition from which it is important to distinguish retention, and that is *Suppression*. This occurs in obstetric practice most commonly in connection with carcinoma of the cervix which has invaded the cellular tissue, involved the ureters, and completely obstructed them. The use of a catheter will at once settle the diagnosis. [A table will be found at the end showing the causes of disordered micturition (*a*) as affecting each section of the urinary tract; (*b*) as affecting the tissues external to the tract; (*c*) affecting the composition and quantity of urine; (*d*) belong to the nervous system.]

If now a case of the kind we are considering presents itself to you, you will classify it at once under some one or other of the four headings given above, and then proceed to find the exact cause by one or more of the following methods according to the indications:—

Examination of urethral and vaginal orifices. In cases pointing to some cause in their regions note should be taken if there be purulent discharges from the vagina, or on squeezing the urethra; or any ulceration (*e.g.*, lupus of Matthews Duncan) around the urethra; any new growth, as urethral caruncle or cancer of the anterior vaginal wall; or whether a foreign body is present in the urethra or vagina (neglected pessaries, for instance).

Examination of vagina and pelvic organs. The diseases most commonly to be made out in this way are para- and peri-metritis, especially of the connective tissue close to the bladder; cancer arising in the cervix, and involving the bladder; or retroverted, enlarged uterus (pregnancy 3rd and 4th month, or fibroids enlarging the uterus to a corresponding size) and fistulæ.

Examination of Urine. The urine should be drawn with a catheter, so as to obviate fallacies

owing to vaginal discharges, and to prevent a full bladder being overlooked. It may contain albumin, pus, blood, tubercular matter, uric acid crystals or larger masses, sugar; it may be acid or alkaline. Its Sp. gr. may be diminished or increased. I need only now say that albumin and low Sp. gr. point to Bright's disease; pus suggests cystitis, when the urine is usually alkaline (after forty-eight hours or so, at all events), or pyelitis from various causes; hæmorrhage is due to new growth, as a rule, unless when well mixed with the urine, and then some disease of the kidney, either organic or functional, is probable; tubercular débris is usually from the kidney; uric acid crystals may be the cause themselves, or may point to renal calculus. Sugar, with high Sp. gr., means diabetes; low Sp. gr. and pale colour should make you think of hysteria or chronic Bright.

Examination of Bladder. The sensitiveness of this organ will have been gauged somewhat during vaginal examination. If it is not contra-indicated by extensive cancer, a very gentle attempt should be made to pass a large sound, warmed and oiled. The bladder can then be measured (see remarks at beginning of lecture), its elasticity and sensitiveness estimated, and its mucous surface explored, and any foreign body detected. Stricture of the urethra can be made out, though this is hardly likely to have been overlooked until now.

If there is a foreign body or suspicion of a growth, the urethra may be rapidly dilated and the bladder examined with the little finger.

The abdomen must be carefully examined in the absence of causes in other situations, and the condition of the kidneys investigated. One of them may be displaced, hydronephrotic, or enlarged from various diseases, any of which may be the source of the trouble in passing water.

The age and character of the patient will have been noted, as bearing, for instance, on the cause of "wetting the bed," or hysterical retention.

We have now considered the grouping of these complaints clinically and their investigation on certain definite lines. You will find many cases not conforming entirely to the general rules I have laid down; but if your method of investigation is reduced to a system it will usually bring you near the mark—at all events you will not overlook anything.

The treatment of disorders of micturition is the treatment of its individual causes, and want of time forbids my entering on them now.

TABLE OF CAUSES.

A. IN STRUCTURES FORMING URINARY TRACT :

Urethra—Urethritis, caruncle, foreign bodies, stricture.

Bladder—Cystitis; growths, as cancer, tubercle, etc.; calculi, foreign bodies; fistulæ; small, contracted bladder, with healthy urine.

Kidney—Pyelitis and nephritis; calculus; new growths, as cancer, tubercle; movable kidney; hydronephrosis.

B. IN STRUCTURES EXTERNAL TO URINARY TRACT :

Near Urethra—Vulvitis; vaginitis; vaginal cancer; ulceration around urethral orifice; displaced cervix (in retroversion of gravid or fibroid uterus); large polypoid myoma in vagina; hæmato-colpos from retained menses.

Near Bladder—Peri- and para-metritis; and occasionally ovaritis; cancer of uterus; impacted fibroids, pregnancy in early months; suddenly increased abdominal pressure from cough, etc.

Near Kidneys—Para-metritis, ascending along ureter to peri-renal fat.

C. ALTERATIONS IN URINE : Diabetes, chronic Bright, hysteria; uric acid in crystals, or larger masses of this or other concretions.

D. DUE TO NERVOUS SYSTEM—Hysteria, habit (in enuresis) reflex inhibition in anal fissures and after operations about perinæum.

Acute Tonsillitis. (Martin, *La Sem. Medicale*):

| | | | | | |
|----|-----------------|----------------------------------|-----|-----|-------------|
| ℞ | Acid. Carbolic. | | | | |
| | Camphor. | ... | ... | ... | aa 1 part |
| | Glycerini | | | | |
| | Aq. Destillat. | ... | ... | ... | aa 50 parts |
| M. | Ft. pigment. | To be applied three times daily. | | | |

Dusting Powder for Herpes Præputialis. (Besnier, *Med. and Surg. Reporter*):

| | | | | | |
|----|-----------------------|-----|-----|-----|-----------|
| ℞ | Bismuth. Subnit. | ... | ... | ... | 1 part |
| | Acid. Tannici (Pulv.) | ... | ... | ... | 5 parts |
| | Amyli | ... | ... | ... | 100 parts |
| M. | Ft. pulv. | | | | |

Ointment for Varicose Ulcers. (*Allgemeine Med. Cent. Zeit.*):

| | | | | | |
|---|-------------|-----|-----|-----|-----------|
| ℞ | Zinci Oxid. | ... | ... | ... | 15 parts |
| | Vaselini | ... | ... | ... | 40 parts |
| | Lanolini | ... | ... | ... | 100 parts |

Ft. unguent. To be applied four times daily after washing and drying the ulcer.

SOME CLINICAL REMARKS ON CHRONIC EAR DISCHARGES.

By A. E. CUMBERBATCH, F.R.C.S.,
Aural Surgeon to St. Bartholomew's Hospital.

A PATIENT generally comes to a medical man for relief of ear-disease, owing to the existence of either pain, deafness, or a "running from the ear." Of the symptoms enumerated, the latter is perhaps the most frequent cause of a patient seeking advice. Knowing what may be the complications and sequelæ of discharge from the ear if neglected, it is very important that all those engaged in medical work should be familiar with the causes, diagnosis, and treatment of this condition to enable them successfully to deal with it.

When a patient comes to you for the first time with a "running from the ear," question him as to the symptoms of which he complains, ascertain the nature of the discharge; whether it be thick or thin, scanty or plentiful, odourless or offensive, blood-stained or not, and by an examination of the deeper parts of the ear, make up your mind as to the cause of the discharge in the particular case before you.

Before considering the varieties, I will enumerate the principal causes of chronic discharge from the ear. They are—

- (1) Chronic purulent catarrh of the middle or external ear.
- (2) Caries or necrosis of some part of the bony auditory apparatus.
- (3) Polypi and Granulations.
- (4) Eczema.
- (5) Carcinoma.

The nature of the chronic discharge depends more or less on its cause. The chronic purulent discharge from the middle ear may be "laudable pus;" more often it is thin and yellowish or slightly greenish. Sometimes it is odourless, sometimes very offensive. It is rarely the latter except when neglected, or where carious bone exists. When the discharge is due to catarrh of the meatus, it is more often thin and whitish than thick and creamy. When it is due to eczema of the meatus, it is thin, almost clear, and soon dries on escaping to the surface. Often, however, it is mixed with the altered secretion of the cerumenous glands and epithelial débris, and in such cases it is thickish and yellowish-brown in colour.

The discharge is at times blood-stained, and whenever such is the case you should always suspect the presence of a Polypus, of Granulations, or of Carcinoma. When there is no sign of blood in the discharge, always question the patient as to whether any has ever been observed, its presence being only occasional. The discharge associated with Caries or Necrosis is thin, yellowish, or greenish-yellow, and offensive. In Carcinoma the discharge is not abundant, but is frequently blood-stained.

We are in possession of these facts then, that—

(1) Thin, palish, and offensive discharges are most likely to be associated with Caries or Necrosis of some part of the auditory apparatus.

(2) Thick creamy discharges may occur as the result of chronic, but are more likely to be the result of recent catarrh of the middle ear.

(3) The presence of blood in a discharge is suggestive of polypi, granulations, or carcinoma. Another cause of abnormal coloration of the discharge is its admixture with cerumen.

In no case, however, can the nature of a discharge be regarded as a diagnostic, and it must be looked upon merely as one factor of the case. Bearing this in mind, proceed to the physical examination of the ear, with the aid of a speculum, mirror, and good light. Search the pinna for any signs of eczema, and do not mistake the excoriation resulting from an irritant and neglected discharge from the middle ear for moist eczema. Next examine the condition of the external auditory meatus, noting whether a polypus or granulations be present, and finally examine the condition of the membrana tympani, as regards lustre, presence or absence of perforation, etc.

Having completed the physical examination, to enable you to form your diagnosis, I will briefly enumerate the symptoms of the chief conditions producing chronic ear discharges.

(1) *Chronic purulent catarrh of the middle ear.* There is deafness, occasionally pain, discharge which may be abundant or scanty, thick or thin, yellowish or slightly greenish, perforation or perhaps almost entire absence of the membrana tympani, often in the latter case, polypoid enlargement of the tympanic mucous membrane. Sometimes a single pedunculated polypus is present; or a small polypoid granulation, most frequently situated on the upper and back wall of the meatus. You must be careful not to mistake the reddened membrana tympani, denuded of its

epithelium, for a polypus; its flattened appearance and its immobility when lightly touched with a probe, will help you to a correct diagnosis, when in doubt.

(2) *Chronic purulent catarrh of the external meatus.* On inspection the passage is found more or less narrowed from subdermoid effusion; the surface is sodden and white from the maceration of its epithelium, and where this is removed, the dermis is red and moist. Examination by means of the speculum and diagnostic tube fail to detect any perforation of the membrana tympani. Deafness, when present, is rarely a marked symptom, and the discharge, not very abundant, is soluble in water, from the absence of *mucus*, showing that the discharge does not come from the tympanic cavity.

(3) *Caries or necrosis of adjacent bone.* This condition may always be suspected from the obstinate persistence of the discharge under treatment, its offensive odour, and the presence of granulations. Detection of bare bone by means of a probe will of course render the diagnosis certain.

(4) *Polypus or polypoid granulations.* The discharge varies in quantity, and is occasionally tinged with blood. Deafness varies with the size of the polypus and with the condition of the other parts of the auditory apparatus. I use the term polypoid granulation to denote a growth similar in structure to a polypus, but not growing from the mucous surface, in other words, arising from some part of the external auditory meatus, but not from diseased bone.

(5) *Carcinoma.* This, on examination, looks very like a polypus or polypoid granulations. It is, however, firmer to the touch, and, although not specially vascular in appearance, bleeds freely on manipulation. The discharge is thin, scanty, and frequently blood-stained. Whenever you find in the ear of a patient beyond the prime of life what looks like a polypus or mass of granulations, which, though pale, bleed readily when touched, suspect carcinoma, and inquire as to the patient's health, search for enlarged lymphatic glands, and finally examine a small fragment of the growth under the microscope.

(6) *Eczema.* There should be no difficulty in diagnosing this condition, as there is generally eczema of the pinna as well, and frequently of the adjacent scalp.

Before discussing *treatment* it is important to note

the complications which may occur in the course of chronic discharges from the ear. They are:—

(1) Inflammation and abscess of Mastoid Process.

(2) Necrosis of various parts of Tympanic walls and external Auditory canal.

(3) Polypi and polypoid Granulations.

(4) Thrombosis of Lateral Sinus and Pyæmia.

(5) Meningitis.

(6) Sub-dural, cerebral, or cerebellar abscess.

Without going so far as to say that each of these complications could always be prevented, I must point out that in many cases they are the direct result of carelessness and neglect. I have not the time now to discuss the question of these complications, their diagnosis and treatment, but let me impress on you the great importance of being fully on the alert to detect them. Should a patient complain of pain behind the affected ear, take the temperature, and watch for the signs of constitutional disturbance which occur in the inflammatory conditions I have mentioned. Notice whether there is any tenderness or swelling over the mastoid or along the course of the internal jugular vein. Inquire carefully about the discharge, and be suspicious if you are told that it has suddenly diminished or ceased. In the first place, this may be due to some mechanical obstruction, which must instantly be removed; in the second place, it may be the precursor of one of these inflammatory complications.

In the treatment of an uncomplicated discharge, our indications are to permit of its free exit, and to maintain the parts in the highest state of cleanliness. It is common to see patients with the external auditory meatus completely blocked with a large plug of cotton wool. This is quite wrong, as it prevents the free escape of discharge. If thought desirable, a small piece of cotton wool may be lightly placed in the external meatus, but if so, it must be frequently changed. To keep the ear thoroughly clean, instruct the patient to syringe with a warm, weak solution of Boracic Acid, Perchloride of Mercury (1 in 2000), or Permanganate of Potash, and then instil into the ear a few drops of one of the following prescriptions, night and morning:—

(1) R Acid. Borici ... gr.x
Glycerini ... 3j
Spt. Vini Rect. ... 3j
M. Ft. guttæ.

(2) R Zinci Sulphat. ... gr.v
Glycerini ... 3j
Spt. Vini Rect. ... 3j
M. Ft. guttæ.
(3) R Liq.Plumbi.Subacetat. } aa 5j
Glycerini ... }
Aquæ ... 3j
M. Ft. guttæ.
(4) R Cupri. Sulph. ... gr.iv
Aquæ ... 3j
M. Ft. guttæ.

If solutions fail, or when the meatus looks sodden and irritable, the dry treatment should be tried. This consists in blowing in finely powdered Boracic Acid, of Iodoform, alone or mixed with powdered Alum. Before applying the powder, the ear must be well cleansed and dried. Should a polypus or polypoid granulations be present, they must be removed. Carious bone, when it can be reached with any prospect of success, should be removed by operation.

In cases where the cause is dependent upon, or associated with, a constitutional disease, such as syphilis or scrofula, some general treatment must be adopted as well as the local. The same applies where the general health is not satisfactory: tonics, good food, and change of air all helping the general treatment.

CLINICAL NOTES.

(Specially reported for The Clinical Journal. Revised in each case by the Author.)

CLINICAL REMARKS ON SOME CASES UNDER TREATMENT IN THE WARDS OF ST. GEORGE'S HOSPITAL, BY WILLIAM H. BENNETT, F.R.C.S.

A Case of Peri-cæcal Abscess.

This patient, a man servant, about 30 years of age, was admitted under the care of my colleague, Dr. Ewart, with symptoms of intestinal obstruction. He had previously had several attacks of constipation, with great pain, which had passed off under treatment. About a week before admission constipation with pain having again come on, he took a dose of castor oil which produced an action, but

was followed by acute pain about the right side of the belly.

He then became very ill, and was subsequently admitted into the Hospital. When I saw the patient, in consultation with Dr. Ewart he was extremely ill; the pulse was quick, the temperature 102° to 103° , and the expression drawn and anxious.

There had been no action of the bowels for six days. In the cæcal region was a hard very tender mass, which was too sensitive to admit of thorough examination. In the centre of its anterior part was a soft and fluctuating spot. As the case was clearly one of peri-cæcal abscess it was decided to operate without delay. I therefore cut down on the mass over the softened spot, opening a large cavity full of stinking pus. This cavity was carefully washed out, a number of small pieces of sloughing tissue coming away in the washings. On careful examination of the cavity with the finger, without breaking down the walls of the abscess, which were sloughing and very rotten, I failed to detect the vermiform appendix; the abscess was therefore merely drained by means of a large india-rubber drain-tube.

Now (ten days after the operation) the whole cavity is closed and, with the exception of a shallow clean wound in the parietes, completely healed. The patient is practically well, the bowels act regularly, the temperature is normal, the pulse regular and not too quick, the expression of face comfortable and contented.

The cause of the abscess was undoubtedly disease (perforation or sloughing) of the vermiform appendix.

There is considerable difference of opinion amongst surgeons as to the best plan of treatment of the diseased appendix in these cases. That is to say, is it best to remove, or attempt to remove the appendix at the time of opening the abscess? or should the abscess be drained merely in the first instance, and the removal of the appendix be undertaken at a later period, if necessary after the abscess has healed, or at least when the patient is in a better general condition, and when the chances of soiling the peritoneum with septic material are lessened if they exist at all?

I have had a large experience of these cases, and I have not the least doubt that the best plan for the ordinary practitioner is to merely drain the abscess in the first instance, and leave the question of removal of the appendix for consideration later on if necessary. The plan I follow myself is, to lay open the abscess, and thoroughly wash it out;

if upon examination the appendix is found lying free in the cavity—I remove it. If it cannot be easily felt by the finger I do not search for it, but allow the abscess to heal. This is, in my belief, the most rational treatment and the soundest surgery. It must be remembered that the lives of the majority of the patients are in imminent danger, and that the surgeon's first duty is to save life. *Unless the abscess has already burst into the peritoneal cavity this danger to life can invariably be removed by opening and draining the abscess.* At least I have never failed in saving life in this way up to the present time.

To proceed to search for and remove a diseased appendix at once in a patient already in a highly septic condition, whose general state is certainly not fit to bear what may be a prolonged operation, is to increase the immediate risk to life to an extent which I think is not right, especially as the danger incurred in the removal of the appendix later, when the patient is in good health, is so small.

Is it certain that the removal of the appendix is always *necessary* in these cases? Personally I believe not, since "recurrent typhlitis" is not *in-avoidable*, even when the appendix is left altogether untouched? For instance, I know of a case in which an abscess of this kind was opened nearly sixteen years ago, and no trouble of any sort had recurred when I last heard of the patient about a year since. I also think that we have not yet had a sufficiently long experience of these cases to be sure that the removal of the appendix prevents, with absolute certainty, the recurrence of symptoms subsequently.

In the event of the abscess having burst already into the peritoneal cavity, as shown by general peritonitis, etc., a formal abdominal section is, of course, the only reasonable treatment for the purpose of cleansing the peritoneum, and the removal of the diseased appendix in order to prevent the further escape of septic material.

A case of Hæmorrhage from the Bladder.

This patient, who is 55 years of age, was admitted on account of profuse bleeding from the bladder. There had never been any previous hæmorrhage, and in all respects he had been healthy till the occurrence of this attack, which came on suddenly, after some very severe pain about the region of the bladder, and *especially in the end of the penis*. He was placed in bed, and given ʒij of Liquid

Extract of Ergot every four hours. In twelve hours a great diminution in the bleeding was noticeable, and in less than three days it had entirely ceased. The urine is now normal, with the exception that occasionally a few masses of fibrin come away. Before the passage of these lumps the pain in the end of the penis is felt.

No instrument has, as yet, been passed, as I make it a rule, and you will find it to be good practice, never to pass a sound or catheter into the bladder in cases of this kind whilst the bleeding continues, unless it is absolutely necessary. The symptoms probably depend here upon one of the following causes: stone, malignant disease, villous growth, or ulceration over an enlarged prostate. The last condition is improbable, but does sometimes occur. I remember a patient dying from exhaustion after profuse bleeding from the bladder, and at the post-mortem examination nothing was found but a small, deep ulcer which had opened up a large vein over the prostate.

As you now see, the evidence produced by the sound at first sight seems almost entirely negative. The man has an enlarged prostate, there is no stone, and no evidence of a malignant tumour exists. Just to the right side of the trigone, however, is an acutely tender spot, and gentle movement of the beak of the sound over it detects a roughness as compared with the rest of the bladder. This spot from which I believe the bleeding came is an ulcer. Of its nature I am in doubt. One thing at least is certain, viz., that no active surgical interference is called for; if it is benign in character it will probably heal, if it is malignant active treatment will effect no good result. The cystoscope, a little later, may throw some light upon the exact nature of the case—at present the less the bladder is irritated by the introduction of instruments the better. Before leaving this case, let me say that in my experience the only drug of any real value in treatment of bladder hæmorrhage is Ergot, best given in the form of the liquid extract in free doses.

A Case of Tubercular Disease of the Bladder.

Here is a patient, 25 years of age, admitted on account of frequent micturition, accompanied by pain about the vesical region, and, *at the end of micturition, by acute pain at the end of the penis.* A few drops of blood sometimes come away in the water, which is always rather thick, and deposits a

sediment (pus and mucus). All these symptoms are increased by exercise or jolting.

The patient has been losing flesh of late, and has as you can see a typically "strumous" aspect. On the front of the left thigh is a large somewhat puckered scar, over the site of an old wound, from which he says "bits of bone used to come." There can be no doubt I suppose that this man is the subject either of stone in the bladder, or of tubercular disease of that organ near its neck. The vesical symptoms would apply about equally to either condition, but the collateral symptoms point so strongly to tubercular tendency that the disease is nearly certain to be of that nature. The introduction of a sound shows that no stone exists. The region of the trigone is exquisitely tender, and at the left side is rough and coated, apparently with sabulous material. You also see that on the withdrawal of the sound a little thickish mucus streaked with blood clings to the end of the beak. The diagnosis of tubercular disease is thus pretty certain.

On the significance of Pain at the end of the Penis in Bladder Affections.

You will have noted that a prominent symptom in each of these cases is pain referred to the end of the penis. In consequence of the great prominence given to this symptom by the ordinary text-books, in connection with stone in the bladder, it is not uncommon to find an idea deeply rooted in the minds of students that pain of this kind is almost pathognomonic of calculus. Please understand that this is not so. Pain referred to the end of the penis in this way merely means one of two things, either (1) that a movable body is present in the bladder, which is apt to become involved in the neck of the viscus when it contracts, or (2) that disease exists and encroaches on the region of the vesical neck, so that the contraction of the bladder causes irritation and pain. In the first of these conditions the loose body may be a stone, a pedunculated tumour, blood clot (as in one of these patients), masses of fibrin, a foreign body, such as the end of a broken catheter, or a detached portion of a growth. In the second condition the disease may be tubercular, as in the second of these patients, malignant, or even simple ulceration. Let me beg of you therefore to dismiss the idea that this symptom has any *exclusive* relation to stone, since it has a much wider application. In

this connection it may not be amiss to remind you that if a stone be fixed and not situated in the immediate neighbourhood of the cervical neck, no pain referred to the end of the penis need be felt at all.

On some points connected with the introduction of Metal Catheters and Sounds.

There are few things which cause so much discomfort to patients as the unskilful introduction of a metal sound or catheter into the bladder. It will be noticed as a rule, that in passing these instruments the penis is grasped in one hand of the operator, whilst the instrument is passed down the urethra by the other. Under these circumstances, should any obstacle to the passage of the instrument exist (*e.g.*, a stricture), or if its end should be caught in a lacuna or fold of mucous membrane, it is extremely difficult to estimate the amount of pressure which is being exerted in consequence of the opposition between the two hands; the one grasping the penis making *traction towards the operator*, the other controlling the catheter *pressing it towards the bladder*. It therefore not unfrequently happens, especially in inexperienced hands, that a false passage is made almost before the operator is aware of any material force having been used.

Those of you who follow my practice know that in passing metal instruments down the urethra, I rarely, if ever, use more than one hand for the purpose. Grasping the catheter in one hand, usually the right, its point is insinuated into the meatus, and with a gentle onward pressure, pushed down the urethra as far as the triangular ligament; if the handle of the instrument is then allowed to rest against the anterior abdominal wall over a line leading directly from the umbilicus to the pubes, it will usually, in a healthy urethra, slide into the bladder spontaneously. If a stricture exists, the amount of pressure exerted can be exactly gauged, as it is made entirely by the one hand. This method of introducing an instrument by using one hand only is very superior to that in which both hands are employed in the manner I have mentioned, and if the plan I adopt were universally followed, false passages would be far less frequently met with than they are now. Let me, therefore, urge upon you the desirability of acquiring the knack of passing a catheter in this manner. There is no difficulty about it whatever.

Next to the mere application of too much force, false passages are most commonly caused by the operator *depressing the handle of the instrument too soon*. Many false passages would never be made if more care were taken in keeping the shaft of the catheter applied in the vertical line, as nearly as possible, to the anterior abdominal parietes, until the point of the instrument has become well engaged in the opening in the triangular ligament.

If when the urethra is being examined for the first time any object presents itself, the instrument should be withdrawn a little before any further attempt is made at passing it onwards, by such means a lacuna or fold may be readily avoided; on the other hand, if pressed persistently forwards at once a fold may be perforated (especially in the aged), or the floor of a lacuna pierced, and a false passage of the worst kind produced.

The obstacle presented to the passage of a catheter by *spasm* in the urethra may often be entirely removed by engaging the patient in conversation during the introduction of the instrument, and so directing his attention away from the affected part. This is a fact not commonly known, and it is one of the many small details which can only be learnt at the bedside; the books do not say much about them.

A Case of Cellulitis.

Here is a man, aged about 60, whose case illustrates one or two well known clinical points of importance.

He was admitted into the hospital with very severe cellulitis of the forearm, the result of a poisoned wound over the dorsal aspect of the fifth metacarpal bone. You will observe that the whole of the disease is limited to the inner side of the forearm, and that a large abscess has formed at the inner side of the elbow. This is a remarkably clear pathological demonstration of the well-known anatomical fact that the lymphatics of the inner side of the hand pass along the inner half of the forearm, to end in the cubital gland. If the wound in this case had been in the region of the thumb, the abscess would have been in the axilla, and the arm would have been involved in the cellulitis. It is on this account that poisoned wounds on the outer aspect of the hand are generally of more consequence than those on the inner side. Immediately upon admission free incisions were made over the affected part, and the abscess at the elbow

was opened. The cellular tissue of the forearm over the inflamed area was sloughing, and has since come away through the incision.

The case was clearly then one of a very serious kind, yet the temperature as is shown by the chart hardly exceeded the normal level, a practical warning that the condition of the patient cannot always be gauged in these inflammatory diseases by the height of the temperature, for this patient was very ill, as shown, not by the temperature, but by the pulse, which was quick, *soft*, and *altogether wanting in power*. He was in fact in a condition of exhaustion; he was in some danger on that account, and not from septicæmia, as he would have been, had the temperature been very high. Bear in mind that a quick, *soft* pulse in cases of this kind means that stimulant is absolutely necessary for the patient; it probably matters not the least whether it is given in the form of drugs, brandy, or wine. Personally, however, I think when a patient is really ill, that a palatable stimulant such as brandy or port does the sufferer much more good than alcohol conveyed in a dose of physic.

In spite of the extensive sloughing of the cellular tissue the skin has remained everywhere intact—a noteworthy fact when the advanced condition of the disease on admission is considered. The escape of the skin from sloughing in a case so advanced is pretty conclusive evidence of the soundness of the patient's excretory organs; had he been the subject of albuminuria or granular kidneys, the skin would almost certainly have become gangrenous. In cases of cellulitis of this kind, whether the patient be young or old, and whether the organs be sound or diseased, free incisions cannot be made too soon.

FORMULÆ.

Insufflation for Laryngeal Phthisis. (*L'Union Medicale*):

R Menthol. ... gr.v
Iodoform ... gr.lxxv
Acid. Boric. ... 3j
Calcii Phosphat. (Pulv.) 3iiss

M. A sufficient quantity of this powder to be used as an insufflation night and morning.

Cachets for Intestinal Antisepsis in cases of Congestion of the Liver. (Dujardin-Beaumetz, *La Semaine Medicale*):

When the portal congestion is complicated with diarrhoea:—

R Salol. ...
Bismuth. Salicyl. ... } aa 3iiss
Sodii Bicarb. ...

M. Ft. xxx cachets. One to be taken three times a day.

When on the contrary the portal congestion is accompanied by constipation:—

R Salol. ...
Benzo-naphthol. ... } aa 3iiss
Sod. Bicarb. ...

M. Ft. xxx capsules. One to be taken three times a day.

If the diarrhoea or constipation are obstinate, the Bicarbonate of Soda should be replaced in the first by prepared Chalk, in the second by Magnesia.

Von Bardeleben's Method of Treating Burns. (*Deutsche Med. Wochenschrift*.—*Therapeut. Gazette*):

After carefully cleaning the burned area it is irrigated either with a three per cent. carbolic solution or a thirty per cent. salicylic acid solution. Sublimate lotions are avoided because of the great pain they produce.

After all the blebs are opened, the entire surface is covered with powdered bismuth; over this absorbent cotton wool is applied. This absorbs any discharge, and fully protects the burned surface from the air. The cotton wool may be sprinkled with a powder composed of equal parts of bismuth and starch.

This dressing may be allowed to remain from one to three weeks, according to the case. In cases of burns about the face it is only necessary to cover the burned parts with the powder, the bandage being omitted because of the discomfort it occasions.

Under this treatment the author has seen cases recover where two-thirds of the body were involved.

Von Bardeleben thinks the bismuth probably exerts some influence in preventing intestinal complications, as in 100 cases treated in this manner only two had blood in their stools. In using the bismuth there is no danger of intoxication from absorption, even in cases where it is extensively applied. By the antiseptic treatment secretion is greatly diminished.

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A CLINICAL LECTURE

ON THE

NATURE OF TRUE RHEUMATISM.

Delivered at the London Hospital,

By A. ERNEST SANSOM, M.D., F.R.C.P.,

Physician to the Hospital.

The subject of my present course of Clinical Lectures is, "Rheumatism and its Counterfeits." My endeavour will be first, to present you, from our clinical experience, a picture of true rheumatism; next, to show you some cases which resemble those of rheumatism, to which the term is, in some form or other, often employed, but which I believe to be of a very different nature; and lastly, to deduce some lessons of practical therapeutics.

In this lecture, I shall confine myself to the task of trying to find an answer to the questions—"What do we mean by 'Rheumatism'?—what ought we to mean by 'Rheumatism'?"

In ancient times, the term was applied to affections, both of the joints and of the mucous membranes. Rheumatism and catarrh had a like signification. In the sixteenth century, the latter term began to be restricted to inflammatory affections, with defluxions from the mucous surfaces. Sydenham clearly sketched the outlines of *acute rheumatism*, and Cullen added much to our knowledge of the disease. The last observer, however, great as is the debt we owe him, left on the minds, both of the profession and the public, the idea that any disorder which was, or which seemed to be, initiated by *chill*, could be legitimately termed "rheumatic." I think it must be agreed that this impression is by no means yet effaced. In these days, whatever may have been the terminology in times past, it behoves us to apply the names ascribed to diseases according to some coherent method—we must group similars—we must classify cases of disease according to clinical signs and symptoms, to pathological changes observed therewith, and to the obvious associations and affinities.

We have had lately, and have now in the wards, a large number of cases, which exemplify the phenomena, which, with our present knowledge,

we may legitimately term "rheumatic." I have shown you a case in which, with moderate fever and sweatings, the patient manifesting a decidedly hereditary predisposition, and the disease being initiated by chill, there were manifestations of pain and swelling in the larger joints. The disease subsided, and there was no further involvement. In another case, with similar articular symptoms, we found the signs of mitral incompetency. Endocarditis had involved the mitral valve; its curtains failed to sufficiently approximate during systole, and regurgitation was the result. In a third case, with like articular phenomena, we found not only incompetence of the mitral valve, but signs indicating both obstruction and regurgitation at the aortic outlet. We concluded that the endocarditis, which was a part of the rheumatic process, had affected, not only the mitral valve, but the aortic area, and had so altered the cusps as to cause them to present an obstruction to the blood-stream during ventricular systole, and had rendered them inadequate to close their orifice during ventricular diastole. We now have to consider a case in which we find two murmurs in the mitral area—one which is systolic, and, without doubt, indicates regurgitation into the auricle at the time of the systole of the ventricle, and another that is presystolic, commencing before the period of the systole and ending therewith. We conclude that not only the mitral valves are imperfectly adapted when the ventricle contracts, but there is also an obstruction to the blood-current from the auricle previously to this event. There is mitral stenosis. We do not doubt that the lesion of the endocardium, which brings about these results, is in association with rheumatism. It is an interesting question how we shall trace the manifestations of these lesions during the rheumatic progression of events. Incompetency of the mitral valve is evidenced in a great many cases of rheumatism. You detect its commencement by a systolic murmur at the heart's apex, and if it is sufficiently intense, it is audible towards the left axilla, and at the back to the vertebral side of the angle of the left scapula. In most cases it means a permanent deformity of the valve, but not in all; the endocarditis may disappear, leaving the curtains competent, or the disease may have only temporarily weakened the papillary muscles.

To detect the early signs of mitral stenosis, direct your attention to the second sound of the heart, as heard just internal (*i.e.*, to the right) of the apex. Instead of the normal second sound, you may hear two sounds in rapid succession. Thus in all you are cognisant of three sounds—the heart seems to have a triple rhythm and you are reminded of the sounds of a cantering horse. These are, the first sound of the heart followed by the second sound, and then an interpolated sound which may be sharp or dull or the short blow of a murmur. You have had an instance of this triple sound in a case of chronic Bright's disease, but much more frequently it is met with in mitral stenosis, and usually in its earlier stages. It has been generally ascribed to a repetition of the normal second sound of the heart and has been called "reduplicated second sound." You have observed, however, in the cases I have shown you that it is inaudible at the base of the heart, and is heard over the left ventricle. My opinion is strongly that its mechanism is within the ventricle—that, owing to the obstruction at the mitral orifice, the blood, having been retained in the left auricle and pulmonary veins in a state of abnormal tension, enters the ventricle at the commencement of diastole as a wave of unusual force or suddenness. So in some cases a dull sound is caused after the normal second sound of the heart, in others a short murmur constituting the *early diastole* murmur, so termed by Dr. Bristowe. These are the sounds which may indicate an obstruction between left auricle and ventricle. In the earlier stages this obstruction is constituted by a ring of vegetations on the auricular side of the mitral curtains, in later stages the flaps become welded together to form a conical tube (the funnel mitral), or there is a great thickening of the valves with fibroid, and perhaps calcareous, change involving the cords, columns, and contiguous structures, the aperture between auricle and ventricle having the form of a slit or crescent (button-hole mitral).

In the great majority of instances the changes thus presented are due to rheumatism. Can we explain, then, why in some instances rheumatic endocarditis results in mitral insufficiency, and in others in mitral stenosis? I think that in the lesion which results in insufficiency the rheumatic endocarditis is more intense and spread over a wider area; there is an association with the more severe forms of rheumatism, and repeated attacks are most likely to be followed by it. After the

original inflammatory storm, the curtains, cords, and columns undergo fibroid changes and contractions whereby the curtains are drawn one from the other, and regurgitation results. In the lesion of mitral stenosis the endocarditis is over a more limited area, it attends the slighter forms of rheumatism or may be the only expression of the rheumatic state, and the changes at the orifice are more slow. However slightly pronounced the endocarditis, this is usually of the rheumatic form. Mitral stenosis is never congenital in the sense of a malformation, though in rare cases it may be a result of congenital endocarditis. Strange to say, endocarditis may occur in the foetus in utero without the slightest sign of rheumatism or of other ailment in the mother, and though the valves of the right side are then chiefly affected, those of the left may be involved also. Such instances, however, are very rare. Mitral stenosis has been observed in very few instances under the age of five years. I think the limited endocarditis which results in mitral stenosis may in some cases be induced by overstrain or by sudden excitements of the heart's action, but in those we have lately observed, and such constitute the large majority, the lesion is in association with rheumatism.

I now turn to further manifestations of the invasion of rheumatism. You have seen in the case of a man, aged 24, whilst the fever and the polyarthritis were manifested, pain and distress were complained of over the præcordium. A to-and-fro rubbing sound was heard over the heart's apex—the percussion-area of dullness was increased, the friction-sound assumed a triple rhythm, the rub differed much in intensity on consecutive days and with the recovery of the patient disappeared altogether. In this case there was *pericarditis* evidenced by the friction-sound caused by the movement of the roughened layers of the visceral and parietal pericardium over the ventricles. Afterwards the rub had a triple character, its cause being (1) the auricular systole; (2) the ventricular systole; (3) the ventricular diastole. Moreover, much fluid was effused into the pericardial sac causing an increase of the area and of the degree of præcordial dullness. At present, recovery seems to be perfect; there are no signs nor symptoms of disease. In another case, a man, aged 30, you observed a friction-sound over the base of the heart which ultimately passed away, but a systolic murmur of mitral regurgitation persisted. Pericarditis and endocarditis co-existed, and there were

further involvements, viz., pneumonia and pleuritis of both sides. All these affections were, no doubt, in direct association with rheumatism. In a third case in this category, the conditions were still more grave, and the record serves to point many lessons concerning our theme.

A boy, aged 10, is now in the wards, recovering from the most severe manifestations of rheumatism. When he came in, he suffered from pain and swelling of the larger joints, with the usual signs of rheumatic fever. He was in a grave, if not critical state, with great dyspnoea and orthopnoea; he suffered much oppression at the præcordium, though for long periods he was very drowsy. There were abundant signs of double pleuro-pneumonia, and a murmur of mitral regurgitation was heard at the heart's apex. Moreover, the area of præcordial dulness was greatly enlarged. I examined this case many times, but I could not come to the conclusion that there was much fluid effusion—the dulness was not of such absolute character as to denote fluid, which should distend the pericardium above the level of the third costal cartilage; but the whole heart was enlarged, and so continued during the time of the boy's grave illness. Now, the conditions having greatly improved, the area of dulness is much less. No doubt the heart is dilated, and very probably the pericardium adherent, but the volume of the heart, as a whole, has decidedly diminished. Let us inquire as to what happened in the case of the heart of this boy. I have no doubt that there was some pericarditis and that endocarditis co-existed, even though there were no direct signs of pericardial effusion. In the child, when there are evidences of severe rheumatic fever, it is common for both pericardium and endocardium to be implicated. The effusion, however, probably occupied only the lower part of the pericardial sac. It was not only the pericardium and endocardium that were involved, but the whole heart. The products of inflammation were infiltrated between the muscular bundles, and, about the tissues surrounding the great vessels, there was a general *carditis*. In process of time, the inflammatory products became absorbed, and though there results a heart crippled by disease of the mitral valve, and probably by pericardial adhesion, there is a more cheerful outlook than is usual in a child of ten, who has manifested such extremely severe signs of rheumatism.

You must remember that in the child the symptoms in regard to the joints in rheumatism are often very slight. The pain and swelling may be

trivial, and even overlooked. In some cases you may find pericarditis and endocarditis when there have been no notable joint symptoms whatever. The heart is more, the joints are less, vulnerable than in the adult. The signs and symptoms which should lead you to suspect rheumatism in the child are these:—Anæmia (other causes excluded), Tonsillitis—always inspect the fauces of a child; if you see evidences of tonsillar ulceration, recent or remote, inquire further as to rheumatic proclivity—eruptions upon the skin, chiefly erythema. The most significant is an erythema bounded by borders which are circular, or of irregular bizarre shape, like the outlines of a map (erythema marginatum). Purpura and urticaria may be rheumatic manifestations. Subcutaneous nodules, little fibrous outgrowths, over the bony prominences about the elbows, the extensor tendons of the hands, the margins of the patellæ, or the crests of the ilia and spines of the scapula. In a child manifesting any of these signs, watch the heart warily, for disease may develop a long time after the initial signs.

We have been able, chiefly from our recent experience in the wards of this Hospital, to draw the broad outlines of the disease which we should describe as *rheumatism*. We have seen that in the adult, the early periods of the disease are marked by an inflammation of the joints, with an intra-articular effusion of fluid, which tends to become absorbed, and to leave, after recovery, the structures around the joints in their normal state. The endocardium, the pericardium, the pleura, and the lung-tissue, however, may be involved in the morbid process. In the child, the heart and pericardium tend to be involved with exceptional severity, and the inflammation of the joints is generally much less.

The course of the morbid process in rheumatism is long drawn out. We often observe relapses, in which the whole course of the phenomena seems to be repeated. I am not quite sure that we should speak of these as "relapses." They are recurring waves, so to speak, of the disease. Long after there is an apparent restoration to health—long after our patients are discharged from the Hospital—a slow series of changes may be going on in the valves of the heart, and contiguous structures, and there may be, again and again, slight manifestations in the joints, and elsewhere of the rheumatic process. Sometimes we may recognize these, and call them "subacute rheumatism." Often they are unnoticed and unknown.

A CLINICAL LECTURE
ON
SOME FACTS CONCERNING JOINT
DISEASE AND A
CASE OF SENILE GANGRENE.

Delivered at the Central London Sick Asylum, Cleveland
Street, in connection with the London Post-Graduate

Course, Nov. 17th, 1892,

By T. HOLMES, F.R.C.S.,

Consulting Surgeon to St. George's Hospital.

GENTLEMEN,—The first patient I am showing you is a case of cured Hip Disease. The history of the case is as follows:—He was admitted to this institution on December 1st, 1891, suffering from phthisis. That point, however, we will speak of in connection with the next case. His father died, æt. 39, in Brompton Hospital, and one brother is said to have died as the result of phthisis. He had disease of the left hip joint when seven years of age, and attended as an out-patient at a hospital for nine months. During this time he wore gutta-percha splints, and, presumably, went about in the ordinary way. It is not surprising, therefore, to hear that an abscess formed during this time. He was then admitted into another hospital as an in-patient. There he remained for eighteen months, during twelve of which extension was applied. On leaving the hospital he wore a splint, and walked with a crutch. He continued to wear the splint for eight months, but did not discard the use of the crutch for another four months. Since that time he has needed no artificial assistance in walking.

We will now look at the patient, and examine the present condition of the hip joint. Firstly, you will notice that it is fixed—absolutely fixed. This fixation being due to ankylosis, probably bony. You can feel also, passing from the crest of the ilium to the trochanter, strong fibrous bands which further help to maintain the rigidity of the joint. There is some eversion and some shortening (half an inch) of the limb. At the upper part of the femur there is apparent broadening, due chiefly to the projection backwards of the great trochanter.

In commenting on this case I should commence by stating why I consider this man cured. My reason is that one of the terminations of these cases is cure by true ankylosis, such as is found present in this case; and I want to impress on you how

much better this natural cure is than any artificial cure brought about by operation. It is an instructive case, as we have the results of his treatment, first as an out-patient, when he was allowed to get about with no other support than a gutta-percha splint; secondly, as an in-patient when he was treated by prolonged rest in bed, with extension of the limb. So soon as a case is diagnosed to be one of disease of the hip joint, or even so soon as there is a suspicion that such disease exists, the little patient should be put to bed at once, and have extension applied to the limb on the affected side, while, if he is very restless, the sound limb should also be fixed. No half-measure can be of any use at the early stage if we wish to avoid an abscess forming. Parents will be anxious about the child's general health, and there are many who believe that long confinement in bed will, temporarily, if not permanently, injure it. Such is not my experience. The anticipated injury can be avoided by care as to the child's surroundings. Plenty of fresh air, suitable diet, and such drug treatment as will best act on his constitutional condition will prevent it. Children bear confinement to bed under these circumstances marvellously well. In the first place, the constant extension, if carefully and skilfully applied, prevents the painful spasms which would wake the patient up just as he dropped asleep; and with sound sleep good appetite and digestion return. Then the bowels should be regulated; a liberal diet, consisting of milk and farinaceous food, but not excluding meat, should be given, and if the child is emaciated cod-liver oil or the syrup of iodide of iron should be prescribed. I have seen children improve marvellously in their general health under these circumstances. I do not say that in no case thus treated will an abscess form; but I do say this treatment will very materially diminish the risk. There are some cases, no doubt, in which acute disease attacks the joint, and runs very rapidly on to suppuration. This patient might have had an abscess form even with proper rest, but such treatment as he underwent as an out-patient could never have prevented it. On admission to the other hospital, judging from the scar here, the abscess was opened by incision. This was good treatment. He was then kept in bed, with the limb extended, for twelve months. This was also good treatment, as evinced by the result obtained. The continuance of the use of a splint, was also, in my opinion, good treatment;

the whole tending to keep the parts at rest until the bony ankylosis had taken place.

How long should rest with extension be continued? This is by no means an easy question to answer, as much will depend on the peculiarities of each case, but I would urge you rather to prolong treatment too much than to leave it off prematurely. In a child one might say that the treatment should be continued so long as there was any pain on passive motion of the joint, and for about three months afterwards. In this case it was prolonged for a considerable period; but are not the results obtained worth it? There is certainly some displacement of the limb, but no dislocation and hardly any shortening. The joint is firmly ankylosed, and also fixed by fibrous bands.

As a rule, the results obtained by natural cure are much better than those obtained by excision. This case is of course no fair instance, for here the disease was arrested early by judicious treatment; but even after dislocation and much shortening the limb is far sounder and stronger than it ever is after the most successful excision. I often refer to the case of an intimate friend of my own, who was under Sir B. Brodie's care for hip disease, and recovered with dislocation and considerable shortening; yet he was in his day an excellent Alpine climber, good uphill, and much better downhill, and able to do ten or twelve hours' work with much less fatigue than many persons who had been perfectly healthy all their lives.

I do not wish to decry the operation of excision. I practised it very freely at one period of my surgical career, and obtained remarkably good results in some cases. But I have no doubt (and I think the report by several surgeons, of whom I was one, in the "*Clin. Trans.*" vol. xiv., proves satisfactorily) that the natural cure gives a better and stronger limb than that after excision. I do not speak of the risk to life in the latter operation, though whatever some surgeons have said, for my own part I do not regard excision as anything other than a grave operation.

Mr. Howse has recently advocated the amputation of the limb just above the knee joint, as it produces less shock; and the disease will sometimes subside after this operation.

As to this proposal, it is probably an appropriate preliminary in the total removal of the limb, as the remains of the femur can be shelled out afterwards from an incision down the outer side of the thigh, but there is little proof as yet that it has any cura-

tive value; and there is some risk that it might be used in cases which would have resulted in natural cure.

To sum up what we learn from this case:—

(1) Order rest and extension at once on diagnosing hip joint disease; taking care that the patient's health is improved by fresh air, suitable food, and appropriate drugs.

(2) When the disease has gone on to suppuration, let out the pus, wash the abscess out frequently, and continue the rest and extension in the hope of producing a natural cure.

(3) Remember that if this were always done, such a case as this of natural cure would be the rule rather than the exception.

Case 2.—This man, æt. 60, was admitted here on May 9th, 1891, with the left sterno-clavicular joint in its present condition and pain in the right inguinal region. He has been an engineer, soldier, and clerk. He never had syphilis. When in India and China he had ague and dysentery. In 1858, three years after he had ceased to handle lead much as an engineer, he had paralysis of the extensors of the left forearm. In 1864, he had delirium tremens. In 1889, he came to this infirmary with an abscess in the left sterno-clavicular joint. This was opened, the sinus being slit up and the joint scraped.

When re-admitted in May, 1891, there was pain on pressure both above and below Poupart's ligament on the right side. The popliteal and inguinal glands on that side were enlarged. There was fulness and muscular tension in the right iliac fossa, and fluctuation in the upper part of Scarpa's triangle. The fluctuating swelling increased in size.

On August 24th, 1891, it was tapped, and serous fluid withdrawn.

On September 10th pus was withdrawn by a hypodermic needle. On the 20th, however, only serous fluid was obtained.

The fluctuating swelling then entirely disappeared, and the parts became quiescent. Some pain, stiffness, and fulness above Poupart's ligament, with enlargement of the glands, however, remained.

On June 23rd, 1892, there was pain in left inguinal region and hip, and the inguinal glands became large and tender. By August 20th these signs had greatly diminished. On September 20th it was noted that the patient had complained of pain in the right hip for five days. On examination the joint was found to be swollen, and there was tenderness all round it. There was increased

fulness in the lower part of the iliac region, and pain was complained of in the hip joint on striking the foot.

If you examine the case now, you will find the right hip joint swollen and stiff. Pain is elicited by passive motion. You will also find fulness in the right iliac fossa. There is an opening leading to the left sterno-clavicular joint, which discharges a small quantity of pus.

This patient is an example of a constitution broken down by hardship and excess, as our last was one of a constitution weakened by phthisical tendency. In my young days *Morbus Coxæ* was regarded as absolutely the result of the patient's tuberculous tendency. We know now that though such is frequently, it is by no means always, the case. Anything which tends to break down health may be regarded as a predisposing cause of hip disease, which is generally induced immediately by some injury. I am going to discuss this case rather from a diagnostic point of view. You have heard his history, now examine the case for yourselves. In the right iliac fossa you can feel, on pressure, a distinct fluctuating swelling. I should not pronounce a definite diagnosis without examining him under an anæsthetic. At the same time the symptoms are very suggestive of hip disease. There is pain in striking the foot, pain and stiffness in the movement of the joint, tenderness all round the hip, and occasional enlargement, first of one set of glands, then of another; with no symptom of disease of the spine.

It is interesting to note what a different course hip disease will run in a child and in an adult. In the former, it is accompanied by fever and general constitutional disturbance, in the latter, it is, often, chiefly a local trouble.

To render the diagnosis complete, the patient should be examined under an anæsthetic. If hip disease were found to be present by grating on movement, I should lay open this swelling, and wash it out with a suitable antiseptic fluid. If there were no definite signs of hip disease, I should insert a needle and, if pus were found, adopt the same treatment.

This patient presents another interesting feature, disease of the sterno-clavicular joint. This is a rare condition, and its rarity is, I believe, due to the very limited movement the joint possesses. It is a particularly interesting case to me, as we are told that the joint was scraped. For many of the years I was following surgical practice his operation

would have been avoided. In fact, it only came into vogue shortly before I gave up work. I believe the reason of joint scraping not being practised before, was because the knee joint was taken as the type; and before antiseptic surgery became an accomplished fact any surgical interference with this joint was a dangerous proceeding. Now, however, "erosion" is practised on even so large a joint as the knee with tolerable impunity—whether with permanent success in any large proportion of cases I am not aware—the few I have myself seen or practised have not been decisive. But in such a joint as that between the clavicle and sternum it is no doubt a proper proceeding; and I think in the instance before us it gives some promise of ultimate success, though it has not yet perfectly succeeded. There remains a small sinus, from which, very likely, a little scale of bone will exfoliate.

Case 3.—This man, æt. 65, was admitted on August 3rd, 1892, with a fluctuating swelling on the inner side of the right knee.

He is a news vendor; has always enjoyed good health, has never had syphilis, and has always been abstemious. Six years ago he was treated for a fracture into the left knee joint, and recovered from this trouble in course of time. He has no recollection of ever sustaining any injury to the right knee joint. He has lived in the workhouse ever since the accident.

About May, 1892, he noticed a swelling on the inner side of his right knee; it soon became painful. As it was getting worse, he applied to the Workhouse Medical Officer, who sent him here. On admission, a fluctuating swelling confined to the inner tuberosity of the right tibia was found. There was apparently one particularly tender spot in the middle of the swelling. Movements of the joint caused pain, flexion causing more pain than extension. Complete extension was not possible. Small veins over the swelling were enlarged.

| Measurements:— | R. | L. |
|------------------------------------|---------|---------|
| At level of lower edge of patella, | 12½ in. | 11½ in. |
| „ middle „ | 13½ „ | 13¼ „ |

On August 15th, it was found that the measurement at lower edge of patella, on the right side, had increased to 13½ inches, and that there was fluctuation over the articulation.

On August 20th, the effusion into the joint had disappeared. On September 5th, a loose body was felt in the fluctuating swelling. This slipped in

and out of the swelling when the joint was moved. It was made to appear several times on subsequent occasions. On September 29th, the swelling had become inflamed and oedematous. It was found to extend upwards behind the knee joint, and downwards behind the tibia.

On September 30th, it was incised, and a grumous fluid containing pus and coagula evacuated. On November 17th, an incision was made over the tender spot; through this a probe was passed its full length, upwards, and behind the lower end of the femur; immediately beneath the incision, caries of the inner tuberosity of the tibia was detected.

The chief interest in this case lies in three points:—

(1) *The probable cause of the disease in the bone.* This was most likely some unobserved injury at the time of the accident.

(2) *The "loose body."* This could hardly be anything else than a piece of cellular tissue, loose or floating, attached by some filament to the parts around the "core" of the phlegmonous swelling.

(3) *The effusion which was noted in the joint, but afterwards disappeared.* This fact connects the case with No. 2 as showing a state of things, which I believe frequently occurs, in which destructive arthritis originates in the parts external to the synovial membrane. In this case it was in the head of the tibia and in the cellular tissue around it that the mischief began. Hence we see the necessity of evacuating the pus at an early stage, so as to prevent the abscess bursting into the joint. It is even better to incise before pus is formed, and let out the effused fluid, as it relieves the tension of the part. I believe that nothing is more curative of this inflammatory effusion than early incision. All this is the reverse of what we were taught when I was young. Abscesses in the neighbourhood of joints, and psoas abscesses were then, by most surgeons, allowed to burst of themselves. Whether this practice was right in pre-antiseptic days or no, I am sure it is wrong now. As soon as you can make yourself sure of the existence of an abscess, lay it freely open, keep it well washed out, and ensure perfect rest. The nearer the abscess is to a large joint, the more necessary is this promptitude.

Case 4.—This man, æt. 70, was admitted January 11th, 1890, for gangrene. He was by occupation a gardener. He has always been abstemious, has never had syphilis. Once had erysipelas, but never any other complaint till the present trouble began.

In August, 1889, without any previous pain, he was suddenly seized with pain in the right big toe, and a small sore formed on its inner side. Gangrene spread from this until it involved all the toes. He laid up in the workhouse until the time of his admission here.

On admission, all the toes and the front part of the foot were gangrenous, being black and dry. The living tissues beyond, for two or three inches, were purple and inflamed. There was a great deal of pain.

The patient was delirious, and had low asthenic fever. The heart's action was weak and intermittent. No albuminuria or sugar.

In July the gangrene came away, leaving the end of the first metatarsal bone projecting.

On August 7th there was an attack of erysipelas in the stump.

On August 23rd the foot was amputated at the ankle joint by the operation known as Syme's amputation: catgut ligatures being used. The wound quickly healed, but subsequently a small fistulous opening formed, which closed after some months.

The stump remained very tender on the inner side for a long time, pressure over the end of the posterior tibial nerve especially causing pain.

Patient is fat, and his mental condition is now normal. The heart's action is occasionally intermittent. No degeneration of arteries can be made out, but the arteries cannot be felt very well, from the amount of fat covering them. The right leg is colder than the other, and capillary circulation very languid. There is often pain in the left big toe, in which circulation is feeble.

We will first consider the question of the senile gangrene. To my mind it is almost certain that the cause in this case was degeneration of the small arteries causing a stoppage of the capillary circulation more or less complete. When amputation is indicated in such cases Mr. Jonathan Hutchinson has demonstrated that it is better to amputate above the knee. Mr. Hutchinson says "amputation near to the gangrenous part should always be avoided unless indeed when after repair has considerably advanced there is proof of well restored circulation." So much for the question of amputation in ordinary cases of senile gangrene; though, perhaps, I ought to say that in my opinion the operation is not very often admissible. Amputation should not be performed except when there is very much pain; the spread of the gangrene is slow and the general

health of the patient is good. Mr. Hutchinson's reason for advocating amputation above the knee joint is on account of the condition of the arteries; for in these cases the disease in the smaller vessels is apt to be more advanced than in the trunk-arteries, so that the vessels in the neighbourhood of the gangrenous part are, as a general rule, incapable of nourishing the flaps sufficiently to produce their union. In this particular case, however, the Syme's amputation was not performed on account of the gangrene, which had practically ceased, but on account of the subsequent erysipelas; and it is most interesting to note that the condition which is dreaded in all cases of Syme's amputation, namely, sloughing of the posterior flap, did not occur in this case: a fact which is in my opinion to be attributed to the comfort and attention he has received. It is, however, still an arguable point whether it would not have been better at first to amputate above the knee. The man has never had to shift for himself, or to leave the comfortable warm ward in which he has been nursed so well and so long. Still the stump is cold, half nourished and painful, and I doubt whether he could go about on it long, without its ulcerating or sloughing. But the case is a very interesting one, as showing how much the care, the good nursing, and the good surgery which these poor fellows now get in our infirmaries, will do to ensure recovery in circumstances that in days not so long since would have been hopeless.

A CLINICAL LECTURE

ON

RETROVERSION OF THE GRAVID UTERUS.

Delivered at St. Thomas's Hospital, Nov. 29th, 1892,
By C. J. CULLINGWORTH, M.D., F.R.O.P.,
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Of all the complications of pregnancy there is none with regard to which mistakes are more frequently made in practice, none in which the true nature of the case is more apt to be overlooked than Retroversion of the Uterus. I am therefore particularly pleased when you have an opportunity of seeing a case in the ward. It is one thing to

read of the clinical features of an affection of this kind; it is quite another thing to be brought into contact with an actual case, and to have the signs and symptoms demonstrated on the living subject. The impression left on the mind in the former case tends to be shadowy and transient; in the latter it is vivid and abiding, ready to be called up again the moment a similar case presents itself in after life.

Retroversion of the Gravid Uterus usually gives rise to no symptoms until the third, or beginning of the fourth month of gestation. The usual course of events is for the patient to present herself about this period, complaining that she is much larger than she has been accustomed to be at this early stage of pregnancy; that she is in great and continuous pain; and that she can only pass a few drops of urine at a time. On external examination the abdomen is found to be enlarged to a degree more consistent with a pregnancy of six or seven months than with one of three or four; the swelling is dull on percussion, is tender to the touch, and gives a distinct fluid thrill. Vaginal examination shows the cervix uteri pushed upwards and forwards, so as to lie high up behind the upper part of the symphysis pubis, and to give the impression of being squeezed against it. The whole of the vaginal roof behind the cervix is depressed by a more or less globular swelling, of soft but unequal consistence, which appears to occupy and completely fill the pelvic cavity, flattening the cervix uteri against the pubic symphysis in front, and bulging backwards into the rectum so as almost to obliterate the canal.

Let us now, before inquiring into the significance of these signs and symptoms, see how far the picture that I have endeavoured to draw is true to life, how far it corresponds with the facts of an actual case.

Elizabeth B——, aged 41, the wife of a labourer, was admitted on the 10th of August, and gave the following history:—She has borne seven children at full term, and has miscarried twice. It is upwards of three months since she menstruated normally; a slight sanguineous discharge has, however, occurred occasionally at regular intervals. Nearly a fortnight ago she felt a "great straining" in the vagina, which sensation has gradually increased.

On the 2nd of August the urine dribbled during the whole day; on the 4th it was passed voluntarily; on the evening of the 8th she found herself scarcely able to pass any, though the desire was urgent, and repeated efforts were made; and on the 9th she noticed some abdominal enlargement which led

her to consult a medical man. She was examined, prescribed for, and told to apply to a hospital; a catheter was not used.

On the 10th, the day of her admission, the abdominal enlargement had increased; she had passed a quiet night, and had twice been able to pass a little urine.

A smooth, oval, fluctuating tumour was found in the middle line, immediately above the pubes, dull on percussion, and measuring six and a quarter inches long by five inches wide. The posterior part of the vaginal roof was depressed by a smooth elastic tumour, pressure upon which caused a little urine to flow from the urethra. The posterior lip of the os uteri felt soft, flaccid, and swollen, and projected downwards into the vagina, so as to give at first the impression that it was a pendulous morbid growth. The anterior lip was hard and fixed, and from it rigid converging folds passed upwards into the funnel-shaped cervix.

By means of a gum elastic male catheter, 45 fl. oz. of clear urine were withdrawn. The abdominal tumour entirely disappeared. The uterus, now distinctly felt to be retroflexed, was gently replaced by the fingers, and a Hodge's pessary was introduced to retain it in position. After the replacement, the os and cervix were found to have assumed their normal condition. The patient was able to dispense with the further use of the catheter; during the next twenty-four hours she passed urine three times voluntarily. She had no pain or discomfort. On the 16th she miscarried.

This was a fairly typical case of the affection we are now considering. The patient became pregnant for the tenth time, and went on as usual, except for a slight occasional loss of blood indicating a threatened abortion, until the third month had just passed. She then began to have functional disturbance of the bladder. One day the urine was almost continually dribbling away. For the next two or three days she was able to empty the bladder as usual. Then she found herself almost unable to pass any urine at all, though the desire was urgent.

Finally, she noticed that her abdomen was very large, and taking alarm, she consulted her doctor, who, failing to recognise the cause of the enlargement, prescribed some medicine to relieve her, and advised her to come up to the hospital. At the time she presented herself the bladder was distended, and as she was only able to pass a few drops of urine at a time, the distension remained practically unrelieved, until a catheter was passed,

when 45 fl. oz. of urine were removed, and the abnormal swelling disappeared. The displacement of the uterus was easily reduced, and there was no further trouble with the bladder.

The patient, however, who had had two miscarriages previously, and had already had some signs of impending abortion during the present pregnancy, miscarried six days after her admission. It is very doubtful whether the condition for which she was admitted, or the very gentle manipulations which were necessary in order to rectify the position of the uterus, played any part in bringing about the miscarriage in this instance. Nevertheless, it does happen in a certain number of cases that abortion follows the replacement, and this is especially apt to be the case where the manipulations require to be long-continued and somewhat forcible.

It is now time to inquire how these bladder troubles are produced. The explanation is simple. A patient with a backward displacement of the uterus, retroversion, or, as in the case here narrated, retroflexion, becomes pregnant. The growing uterus becomes too large, towards the end of the third or the beginning of the fourth month, to be imprisoned in the cavity of the pelvis with impunity. Then one of two things must happen. Either the uterus must escape from the pelvis into the abdominal cavity, of its own accord so to speak, which sometimes happens, or it begins to exercise injurious pressure on surrounding parts, the bladder being generally the first of these parts to suffer. Partly owing to the distortion of the urethra from dragging upwards of the anterior vaginal wall, and partly owing to direct pressure upon the urethra and lower part of the bladder by the cervix which is being pushed forwards by the enlarging body of the uterus, checked in its advance posteriorly by the bony wall of the pelvis, the functions of the bladder are seriously interfered with. At first, the interference may be somewhat fitful, as in the case before us, but in a few days, at the most, there is complete inability to empty the bladder. Distension takes place, and is only prevented from going on to rupture either by the frequent escape of a few drops of urine, after much straining, or by continuous and involuntary dribbling. When matters have arrived at this stage, the situation is urgent, and unless some more effectual means of relief be afforded than the administration of a dose of medicine, the consequences are disastrous.

Obviously, the first thing to be done is to pass a catheter and relieve the distended bladder. This is not always an easy operation. Not only is the urethra compressed, distorted, and elongated, but the pressure often involves the lower part of the bladder as well, so that the retained urine is lying in the upper portion of the organ; and, in order to reach it and draw it off, the catheter must be passed up for a distance of several inches. I have known instances where, from the want of a knowledge of this fact, the attempt to draw off the contents of the bladder has been abandoned, and the patient left in misery under the impression that the bladder had been reached and was empty, and that the swelling was not due to a full bladder after all.

Having relieved the more urgent symptoms by the use of the catheter, what are we to do with the displaced uterus? An attempt should be made by means of two fingers in the vagina to push the body of the uterus out of the pelvis. If it yield easily, and without the exercise of any great amount of force, well and good. If not, either try again with the patient in the genu-pectoral position, or let her rest for a few hours. At the end of that time we sometimes find that the uterus has risen out of the pelvis spontaneously. If it has not, an anæsthetic should be administered, and reduction again attempted by means of the fingers in the vagina. Should it not yield, the cervix may be pushed downwards and backwards by the fingers of the other hand passed round the top of the pubic symphysis, or, the anterior lip of the os uteri may be grasped by a volsella, and gentle downward traction made on the cervix while the body is being pressed upwards. This manœuvre often succeeds, but I am disposed to regard it as involving some risk to the attachments of the ovum, and therefore as likely to increase the risk of abortion. On this account I only have recourse to it in cases of exceptional difficulty.

If the attempt to reduce the displacement again fails, the patient should be kept in bed, the bladder being emptied every eight hours by the catheter. At the end of twelve or sixteen hours, when the hyperæmia and œdema have had time to diminish under the influence of the recumbent posture and the absence of straining efforts, a further attempt should be made to rectify the position of the uterus. This time success is almost certain. Should the uterus, however, still prove unyielding, there is no reason to despair. Recourse must now be had to the force of sustained elastic pressure, a principle

of treatment that has been found so wonderfully effective in chronic inversion of the uterus, as to have rendered unnecessary and obsolete, even in cases of long standing, amputation of the inverted organ. In retroversion, the method of applying this sustained elastic pressure is by passing into the vagina the largest sized hydrostatic dilator, or other similar elastic bag, and distending it by air or water, and leaving it *in situ* for some hours. The gentle continuous pressure wearies the rebellious muscles, and the uterus almost invariably yields.

Having reduced the displacement, we must introduce a Hodge's pessary, and let it be worn for a month.

With regard to diagnosis, the most frequent mistake made is to suppose that the patient has made an error in her calculation, and that she is at or near her full term and in actual labour. I will give you an instance of this presently. A more excusable mistake is to regard the case as a retro-uterine hæmatocele, due to a ruptured tubal gestation. In this case, just as in retroversion of the gravid uterus, we have a history of missed menstruation, and other signs of pregnancy, and we may also have retention of urine from pressure, but in hæmatocele there will almost invariably be a history of sudden onset of severe symptoms, and the uterus will be felt on careful examination, after the bladder has been emptied, lying immediately beneath the anterior abdominal wall just above the pubes. The introduction of the uterine sound would, of course, settle the matter, but that is precluded by the probability of pregnancy, until we have made ourselves fairly certain, by the bimanual method of examination, that the mass in the pelvis is not the retroverted uterus. Other conditions that are liable to be confounded with retroversion of the gravid uterus, are tumours of the ovary situated behind the uterus, fibroid tumours growing from the posterior wall of the uterus, an extra-uterine gestation cyst in Douglas's pouch, and, indeed, any swelling that may occur behind the uterus, pushing the uterus forward, and causing retention of urine. In almost all these cases, however, the swellings, coming from above, press the uterus downwards as well as forwards, so that instead of finding the os and cervix high up behind, or even quite above the symphysis pubis, we find it lower than normal. Even when the retroversion is complicated with flexion of the cervix on the body, and the os is therefore pointing downwards, instead of directly forwards, or forwards and slightly

upwards, the presence of the retroversion causes the cervix to be dragged up, behind the pubes, so that the mere direction of the cervical canal ought not to mislead.

The cause of retroversion of the gravid uterus is almost invariably the occurrence of pregnancy in an already displaced uterus. There is reason to believe that, when this occurs, spontaneous rectification often takes place. But we must not reckon on this. If a patient whom we know to have a retroversion not ordinarily requiring treatment, becomes pregnant, we ought to rectify the displacement in the second month, and let her wear a Hodge's pessary until the end of the fourth month, when the danger of incarceration has passed. Occasionally, however, retroversion of the gravid uterus is the result, not of a previously existing displacement, but of a strain. In this case, the retroversion may be partial only. I saw an instance of incomplete retroversion not long ago in a woman who had received a sudden strain from the collapse of a chair on which she was seated at a place of entertainment.

Of the termination of retroversion of the gravid uterus, I have already mentioned two, viz., spontaneous replacement and reduction by surgical manipulation. Another not unfrequent termination is by the occurrence of abortion. If unrelied in one of these ways, death may result from blood-poisoning, or, rarely, from rupture of the bladder. But apart from actual rupture, the bladder, in neglected cases, becomes seriously diseased. Hæmorrhage may take place into it, or its mucous membrane may become inflamed and even slough. The following is an instance.

A woman, 30 years of age, was admitted under my care at St. Mary's Hospital, Manchester, in February, 1875, having been sent in by a surgeon, who supposed her to be in labour. She had missed three menstrual periods. For five weeks her abdomen had been unusually large, and she had been perpetually harassed by a desire to pass urine, though only a few drops came at a time. Three days before her admission she began to pass bloody urine, and had continued to do so ever since. On admission she was in great pain; her tongue was dry and brown, her thirst intense, her pulse small, weak, and rapid. The abdominal distension reached to the ensiform cartilage. Bloody urine was dribbling from the urethra. There was a large protrusion of piles. The vulva and vagina were inflamed and tender. A smooth, rounded

tumour was felt between the rectum and vagina. A catheter was passed, and 124 fl. oz. of very bloody urine were withdrawn, the flow lasting an hour and three minutes. On the fourth day the uterus was found to have regained its normal position. The patient was very ill for some days. The hæmorrhage into the bladder continued, and she had very severe cystitis. The catheter was required more or less continuously for three weeks. Eventually, however, she made a good recovery, and at the end of a month she left the hospital well. This case is one of exceptional interest, as showing the enormous amount of distension the bladder will sometimes endure.

SOME CLINICAL REMARKS

ON

A CASE OF ULCERATING LUPUS IN A STRUMOUS SUBJECT.

Made in the Out-Patient Department of University College Hospital, November 25th, 1892, by

H. RADOLIFFE CROOKER, M.D., F.R.C.P

GENTLEMEN,—I will stop for a few moments to consider the case of this man, 20 years of age. In the first place, we will make inquiry as to the nature of the disease with which the patient is troubled; and in the second place we will inquire as to the constitutional condition of the patient whom the disease has attacked.

On looking at him, it is at once obvious that there is a destructive process going on in his nose, the left nostril is entirely destroyed, the columella is almost gone, and the right nostril is far advanced in ulceration. Exuberant pus-secreting granulations cover the raw surface, the edges are raised and rounded; but with the exception of some inflammatory redness immediately beyond the border of the ulcer, the rest of the soft parts and the bones of the nose are unaffected. Now, ulceration due to disease should always suggest to your minds three affections—lupus vulgaris, scrofuloderma, and syphilis. The age and general appearance of the patient, and the other lesions usually present, will usually be sufficient to differentiate the first two diseases from the third; and if these are not

sufficient, the answer to the question, "How long has the ulceration been present?" will usually be decisive; for syphilis in its tertiary stage will often do as much damage in a few weeks as it would take lupus months, or even years, to do. Moreover, syphilis is very likely to attack the bones of the nose, while lupus never does, though the cartilages are often lost by the destruction of the soft parts round them. The ulceration in this case has been going on for six months, and the destruction is less than we should expect that syphilis would effect in the same time, and the bones are intact. Apart from other evidence, therefore, the presumption would be against syphilis, though it could not be altogether excluded without other evidence.

This evidence, however, is forthcoming in this patient. His parentage will not help us one way or the other, but he tells us that the disease as a whole has been going on for several years, and there is now a large flat scar occupying the right side of the orbit and cheek with a small, brownish-red semi-translucent nodule embedded in its lower border, which, as we shall presently see, is characteristic of Lupus Vulgaris. Beneath the chin is a patch 2 inches long, and $\frac{3}{4}$ inch broad, of suppurating scabbed dermatitis, situated over a firm lump which, from its position, is evidently an enlarged lymphatic gland, probably in a state of caseation. There are other glands enlarged, his features are of clumsy mould, and from all these objective signs alone we should have no difficulty in concluding that he is what is clinically designated "strumous." Here let me explain that while Lupus Vulgaris and Scrofuloderma are different manifestations of the effects of tubercle bacilli on the skin, Lupus Vulgaris is characterized by new growth in the form of semi-translucent brownish-red papules, enlarging and coalescing into nodules and patches which spread in the skin, and may either ulcerate or atrophy, and produce scars on the inner portion, while new lesions are forming at the periphery. Frequently it is the only manifestation, apart from the family history of the presence of tubercle bacilli. With Scrofuloderma it is different, comprehending various forms of suppurative dermatitis; without new growth, it is almost invariably in association with other manifestations, such as enlarged caseating and suppurating glands, keratitis, past or present, blepharo-adenitis, rhinorrhœa, or otorrhœa, joint or bone disease, and probably the characteristic physique. The combination of the symptoms

making up the so-called struma. Now while these two tubercular processes in the skin—Lupus Vulgaris and Scrofuloderma—may exist separately, they may also be combined in various proportions, and the neoplastic or the destructive process predominates accordingly. In the present case, which comes of a phthisical stock, the strumous manifestations predominate, and therefore ulceration and destruction are the most striking features, and this patient illustrates well, therefore, the special features of Lupus occurring in a notably strumous patient.

The ulceration which so readily occurs is, I believe, not due to any special feature in the lupus growth, but to the fact that pus-cocci find the tissues of strumous patients especially favourable for their development and multiplication. Consequently in these affected areas both the tubercular and these other organisms combine their efforts together, and ulceration takes place more readily. There is another manifestation, not present in this case, of so-called lupus occurring in strumous subjects, and that is the tendency to papillary overgrowth. This occurs in two forms, to which the names Lupus Papillomatosus and Lupus Verrucosus are given. Of the two, the first is the most common. It occurs on the limbs; varies in size from a crown to the size of the palm of a hand; is soft, not being crusted over with the hard, horny covering of the second form of papillary overgrowth. The second form takes its name from the resemblance it presents to a wart. It occurs chiefly on the knuckles of the hand. It is interesting to note that Unna regards this form of Lupus Verrucosus as not only anatomically but clinically identical with the warty growth known as post-mortem warts (*Verruca Necrogenica*), and to similar warty growths occurring in butchers, cooks, and others who are obliged by the nature of their occupation to freely handle dead meat, which were called by Riehl and Paltauf "*tuberculosis verrucosa cutis*," for in all these forms tubercle bacilli exist in considerable numbers. I am inclined to regard these papillary overgrowths as accidental. Any chronic ulcer may take on papillary hypertrophy. I regard these two affections as strumous manifestations, or forms of Scrofuloderma, rather than of Lupus Vulgaris, the characteristic nodules of Lupus being absent.

Some of these other cases teach us certain other features of this disease. In this one you see that though extending at the periphery, involution of

the disease and cicatrization is taking place at the centre. It is very difficult to say when that cicatrization may be regarded as complete and perfect. When from any particular cause such a patient's general health becomes impaired, nodules frequently reappear, which may or may not break down. In children this is more apt to occur than in those approaching adult life. In fact it would be almost impossible to regard any child as cured, a recurrence being almost a certainty. In adults, though a recurrence is a probability, it is not a certainty. I have attending here a woman who came twelve or fourteen years ago suffering from Lupus Vulgaris. Under treatment, the disease was cured. She has married and had children, but there has been no recurrence of the disease for the last seven or eight years.

In the treatment of this affection, remember what I said on commencing the discussion of this case, that we have two factors to consider: (1) the disease itself, (2) the question of the assistance afforded it by the constitutional condition of the patient. No better proof of the obstinacy of this disease can be offered than by reading of the various forms of treatment adopted.

We will commence with the diseased tissue itself. This must be removed absolutely and entirely from without or from within.

I ought to warn you that the following methods of local treatment, either mechanical or chemical, do not apply to acutely ulcerating lupus, as any local treatment of an irritating nature will cause the ulceration to spread even more rapidly than before. I have in my mind a recent case of a lady, in which the disease rapidly spread all over her face as a consequence of the injudicious application of salicylic acid and scraping. The indication, in such cases, is to reduce the excessively active inflammatory part of the process by means of soothing lotions, such as the ordinary calamine or lead lotions. Then, when you think the disease is comparatively quiet, you can proceed with the other methods of removing the diseased tissue.

In some of these acute forms of Lupus, which are fortunately rare, free scarification of the spreading border will check the extension.

Occasionally you will meet with cases where, from no apparent cause, the treatment, I am about to describe, aggravates. When such is the case, it is no use continuing the treatment for the time; you must rely on some milder treatment, such as the following lotions:—

Lead Lotion (Liq. Plumbi. Subacetatis ʒj, Aquæ ad ʒj),

Perchloride of Mercury Lotion (1 in 1000),

Chlorate of Potash Lotion (Potass. Chlorat. grs. v to x, Aquæ ʒj),

Calamine Lotion.

External treatment is undoubtedly the quickest, though it can be facilitated, or rather completed, by treatment from within. The most thorough and most satisfactory method is removal by means of the curette combined with other measures. When the patient is anæsthetised, I thoroughly scrape with this curette, or sharp spoon, all the affected surface. When, *apparently*, all diseased tissue has been removed, I swab over the part with either pure carbolic acid or strong sulphuric acid, which is left on for a few seconds, and is then neutralized by carbonate of soda, or if the patient can be kept under continuous observation, I administer hypodermically tuberculin, as introduced to our notice by Dr. Koch, of Berlin, beginning with .1 c.c. of a one per cent. solution. The effect of this is to get at the diseased part from the back, so to speak, and to bring about the removal of the bad tissue produced by the tubercle bacilli, which cannot be reached by the curette. I still adhere to my opinion expressed in 1891, that injection of tuberculin, without first scraping away the affected tissue, is of little permanent benefit, but that it is a very useful adjunct to the operative treatment in the way I have explained. At the last Congress of Dermatologists, our attention was called to a new drug, Thiosinamin, which has been found by Hans von Hebra, to act in the same manner as tuberculin. Its advantages are that it is quite free from danger, and as no constitutional disturbances result from its injection, patients, for whom it is being used, can attend as out-patients; but at present it is only on trial, and I must defer further remarks until more experience of its use has been gained.

Sometimes patients will not consent to submit to this operation by the curette; and in that case we have to depend on treatment by chemical applications. They are all, however, slow, and more or less uncertain. You should look on them as only substitutes, and unsatisfactory ones too, for the combined treatment I have described.

The old-fashioned method was treatment by caustics. The two pastes still in use, to some extent, are the arsenical and the chloride of zinc pastes. The following are the best formulæ of these pastes:—

Arsenical Paste :—

| | | |
|---------------------|-----|------|
| R Arsenious Acid | ... | gr.x |
| Artificial Cinnabar | ... | 3ss |
| Rose Ointment | ... | 3ss |

Chloride of Zinc Paste (Middlesex Hospital Formula):—

| | | |
|--------------------|-----|------|
| R Zinc Chloride | ... | 3iv |
| Liq. Opii. Sed.... | ... | 3iv |
| Starch | ... | 3iss |
| Water | ... | 3j |

The arsenical paste is the one generally used in Vienna; the other, the one most used in this country. Comparing them together, we find (1) *as regards pain*, that produced by the arsenical is the most violent, and lasts throughout the whole time of its application; that produced by the zinc paste is not quite so severe, and does not, as a rule, last more than six hours; (2) *as regards the effect on the tissues*, the arsenical attacks only the diseased tissue, the surface consequently heals quicker and does not undergo so much cicatrization, owing to the small patches of healthy tissue which are left, the zinc paste, on the other hand, destroys all tissue with which it comes in contact; (3) *as regards danger*, with the arsenical paste there is always the danger of its producing a toxic effect, a danger which is absent in the case of the zinc paste. The disadvantage of both these pastes is that they are not under our control. My experience of the zinc paste is that we have great difficulty in getting precisely the right amount of chemical action. If too little, it aggravates the condition; if too much, it produces a deep seamed scar, owing to the excessive tissue destruction.

The method adopted in Vienna of applying the arsenical paste is as follows:—Having spread the paste on strips of linen, apply them to the part, cover it all up with lint, apply a bandage firmly, and in twenty-four hours remove it, clean the part and renew the application as before, continuing this until ulceration appears.

To use the zinc paste: spread it on lint about the size of the affected patch, apply it to the part, bandage it on, and remove it in twenty-four hours. The part should then be cleansed.

Kaposi, of Vienna, also uses extensively the solid stick of nitrate of silver, with which he forcibly ploughs up the soft lupus tissue. The after pain lasts for several hours.

Lately Dr. Harrison, of Bristol, has suggested the use of nascent sulphurous acid. He soaks

the tissues with hyposulphite of soda in solution (of 3ss to 3j), and then applies a hydrochloric acid lotion of Mv to the 3j of water; chemical action resulting in the formation of sulphurous acid. We have one case here being treated this way; it has the usual disadvantage of being very slow.

The most useful of these local applications though also slow in its action, is salicylic acid. My attention was called to it by a communication in one of the medical journals from a country house-surgeon. I tried it, and with success. Unna, of Hamburg, shortly afterwards called attention to its value, and introduced a plaster for the treatment, which soon became known. A convenient method of using this drug is in the form of his special plaster containing creasote and salicylic acid; or it may be supplied in the form of a paste made by adding sufficient salicylic acid to glycerine to form a paste. The pain only lasts a few minutes, and may be entirely prevented by first painting over the part with a solution of cocaine. The application should be made every day.

There are, failing the methods already described, certain ointments which can be rubbed in, such as Iodoform gr.x, to 3j of Lanolin and Parolein, so as to make a soft and not too sticky ointment, or Brooke's formula: Hydrarg. Oleat. 2½ per cent. to 5 per cent, 3j; Acidi Salicyl. gr.x to gr.xv; Ichthyol gr.xv; Ol. Lavandulæ q.s. These ointments may be firmly rubbed into non-ulcerating lupus, and will produce a certain amount of absorption until the patient's mind is prepared for more radical treatment. All these methods are only samples of the topical treatment which may be used; we now come to the treatment which will best improve the patient's general health, and so carry out our second indication of rendering the tissues more resistant to the propagation of the bacilli and the consequent disease, which, however, we must admit falls far short of our desires. The hygienic, climatic, dietetic, and drug treatment of struma are so frequently and fully described that I need only briefly allude to them. Fresh air, exercise in plenty, avoidance of extremes of temperature, early hours, fulfil the first indication; change of air, especially to the sea-side, the second indication; a simple diet, with plenty of fats if the digestion is good, and regular meals are important as regards the third indication; whilst as to drugs, Cod liver oil; Syrupus Ferri Iodidi; or Tincture of Iodine (five minims three times a day), as suggested by Liveing, are useful.

CLINICAL NOTES.

(Specially reported for The Clinical Journal. Revised in each case by the Author.)

WITH MR. REGINALD HARRISON AT ST. PETER'S HOSPITAL, LONDON.

Treatment of Atony of Bladder.

The routine drug administered in this condition is Nux Vomica—occasionally it is useful. For some time past I have given Ergot. This man, aged 45, suffered from Atony of the Bladder about three years ago, following prolonged enforced retention of urine. He told us on coming here a few weeks ago, the condition having reappeared from a similar neglect, that Nux Vomica cured him on the first occasion. I accordingly ordered him the Tincture of Nux Vomica three times a day. Finding it did not benefit him, I gave in its place ten drops of the Fluid Extract of Ergot in an ounce of Cinnamon water, three times a day, and you hear him state that he is already much better. Its action on the bladder is probably somewhat analogous to its action on the uterus. I use the same drug for the treatment of Hæmaturia, associated with prostatic enlargement. An old member of the profession told me the other day that he had regained the power of his bladder, after being entirely dependent for some weeks on the catheter. Other treatment having failed, I had advised him to give Ergot a good trial, with the satisfactory result stated. No other change was made in the management of his case.

Bladder Irritability due to Tubercular Disease.

Whenever a young man comes to you complaining of bladder irritability, if there is no history of gonorrhœa or syphilis, investigate carefully as to whether it is due to tubercle. Examine first the testicles for tubercular induration; and then the prostate per rectum for the same affection. Should you find signs of tubercle in these regions, the irritability is most probably due to its presence in the bladder, and should bacilli be found in the urine, the probability becomes a certainty. The family history is of importance in these cases, and the shot-like bodies in the prostate are very characteristic of this affection when deposited here. In

making the examination the most complete relaxation of the parts should be obtained, that is to say, the bladder should be empty, and the finger introduced into the rectum, with the patient on his hands and knees.

Drug Treatment of Tubercular Testis.

You have seen to-day this disease in various stages. This patient, 58 years of age, came here two years ago, with the disease in its early stage. If you examine the testicles now, you will find them practically cured. There is a little deposit to be felt in the prostate, but this is gradually being absorbed, and shows no signs of breaking down.

I always order these cases Grey Powder, in doses of $1\frac{1}{2}$ grains twice a day, and my experience is that these conditions usually benefit by such treatment if persevered with sufficiently long. We have seen altogether this afternoon four cases, and they are all improving under this treatment.

Question of Tapping in Hydrocele, associated with Tubercular Testis.

I seldom advise tapping for this condition, regarding it as quite unnecessary. The fluid poured out is a wise provision of nature to prevent rubbing of the two rough surfaces of the tunica vaginalis. When sufficient fluid has been poured out to prevent this, as a rule the hydrocele ceases to increase in size. Should you tap it, just enough fluid is poured out again to prevent the surfaces rubbing together. I, therefore, should not advise tapping, and much less injection of the hydrocele in such cases, unless the amount of fluid is inconveniently great.

Sterilization of the Urine where Pus is brought into contact with it in the Bladder.

In cases of chronic cystitis, prostatitis, and in some instances of pyelitis from backward pressure of the urine caused by obstruction in front, I give Hyposulphite of Soda, and my clinical experience tells me that this treatment, in conjunction under the latter circumstances with such surgical measures as may be necessary, certainly tends to prevent the rapid decomposition of the urine which would otherwise occur. I usually give it in water in half-drachm doses three times a day. Under its use the urine often becomes quite clear.

Violent Neuralgia of the Testicle treated by Ablation of the Nerves, in relation with the Spermatic Cord.

This patient came here a short time ago, complaining of severe neuralgic pain in right testicle; slighter in the left one. There was no enlarged prostate to account for it, and the only local condition to which it could possibly be attributed was a stricture, already cured when he was admitted. Being satisfied that the pain was so severe, and hearing that he could not perform his work, and finding that no drug treatment was of any avail, I determined to try the effect of neurotomy. Accordingly, ten days ago, I cut down on to the cord, and having put the vas deferens and spermatic veins on one side, proceeded to divide and remove with a pair of scissors all the filaments of nerves I could see. As you can see, the wound has healed, and the patient tells us he is free from pain in the testicle. I have had experience of but one other case, for as a rule the pain is not of a severe character. A few years ago a man came to me quite worn out and prostrate from the wear and tear of this neuralgic pain in both testicles. I thought that if neurotomy was beneficial in some cases of neuralgia it ought to be so in this. The same operation was done as in this case on one side, and a perfect cure resulted, so marked that the patient returned some weeks later to have the same operation performed on the other side. This was done with an equal success, and when last seen twelve months afterwards, the patient was quite free from any testicular neuralgia. I might add that no trophic disturbance of the testicles resulted from the operation. In many of the operations I have done for Varicocele by exposure and ligation of the veins, I have often thought that some of the benefits that followed, so far as local discomfort was concerned, was due to the division of some of the nerves of the part which probably took place.

Case of Left Renal Calculus extending over ten years.

This patient, a man of about 35 years of age, came here last week complaining of colicky pain in the left lumbar region running down the groin. There was no retraction of the testicle. He told us that he had suffered from similar attacks, with some hæmaturia, for the last ten years. I examined him externally to see if, by manipulation, we could get any evidence as to the state of his kidneys.

There was no difficulty in grasping the kidney on the right side, but any attempt to do so on the left side (site of the pain) was rendered impossible by the rigidity of the abdominal muscles. The same occurs to-day, and indicates that for some reason or other the kidney on this side is probably sensitive to pressure.

For cases of Renal Colic not admitting of the removal of the stone by nephrotomy, an operation you have recently seen practised with success in this Hospital in several instances by my colleagues and myself, I have for seven years adopted one treatment which is as empiric as it is successful. Some years ago I read in an old German book that boracite, an impure form of borax and magnesia, exercised some action on uric acid calculi. Messrs. Bell obtained some for me, and I have been most pleased with the results. It is known as the *Pulvis Magnes. et Boro-Citratis*. I order the patient to take one teaspoonful in a half pint of hot water on rising, and a similar dose later on in the afternoon. I have many specimens of eroded calculi and of débris in my possession passed by patients whilst on this treatment. Some will tell you that this effect is due rather to the increased amount of fluid taken than to any chemical action of the drug. I cannot, of course, contradict this, nor do I see any need to. My clinical evidence with it, extending over seven years, points out that the treatment described is singularly efficient in cases where a stone is impacted in the kidney. Even if it does no more than secure that the patient flushes his kidneys with a pint or so of warm water, containing a by no means disagreeable ingredient, each day, I feel that it serves a useful purpose in aiding the removal of gravel and concretions from the upper portions of the urinary tract.

FORMULÆ.

For Chilblains. (Hare, *System of Practical Therapeutics*):

| | | | |
|----|-------------------|-----|-------|
| R. | Pulv. Camphoræ. | ... | gr. x |
| | Cretæ. Preparat. | ... | ʒj |
| | Olei Lini. | ... | ʒij |
| | Balsam. Peruviani | ... | ℥xx |
| M. | To be applied. | | |
| R. | Acid. Tannic. | | |
| | Acid. Carbolic. | ... | aa ʒj |
| | Tinct. Iodini | ... | ʒij |
| | Cerati | ... | ʒiv |

M. To be applied two or three times a day.

THE CLINICAL JOURNAL.

WEDNESDAY, DECEMBER 14, 1892.

A CLINICAL LECTURE

ON

A FATAL CASE OF ANEURISM Opening into the Left Pleura, and Attended by Remarkably High Temperatures.

Delivered in the Western Infirmary, Glasgow, November
22nd, 1892,

By W. T. GAIRDNER, M.D., LL.D.,

Professor of Medicine in the University of Glasgow.

GENTLEMEN,—I have said to you before now that a fatal event in the course of our clinical studies is always important, not simply because it is fatal, but because it affords the means of self-criticism, and thus of exploding fallacies and maturing sound clinical judgments; hence it should never be passed over lightly. We should always be ready to put questions to ourselves as to the opinions formed or expressed with regard to the whole course of the illness and of the previous history, revising these in the light of the fatal termination and the post-mortem examination.

It is not enough to say that the patient died of so-and-so, and that the death was unavoidable; you may be quite right in saying so, but the instruction to be obtained from the fatal issue only begins here. The case of Patrick Sheridan, on which we have already had several conferences, will afford me the means of justifying this statement, and I hope of enlarging considerably your clinical experience. Thus, in the case of Sheridan, as far as the mere cause of death is concerned, the results can be stated in a single sentence. It was an aneurism, not very large, just above the diaphragm, eroding the bodies of one or two of the vertebrae, and the articulation of the 12th (left) rib, ultimately opening into the left pleura, and inducing fatal hæmothorax. For the Registrar-General such a statement is absolutely complete, and more than sufficient; but it is only the beginning of the clinical instruction which it is now our duty to endeavour to obtain from the facts of the case as finally disclosed.

The first clinical lesson we are to draw from this

case extends back beyond our own connection with it here in the Western Infirmary; for you will remember that at one time this man was in the Royal Infirmary on the occasion of a previous illness. The report of this illness, in the journals of the Infirmary, is very short, and the case was indexed as "lumbago,"* ending apparently in cure. At least the patient is reported as going out "Well." Pain in the loins was also a symptom while he was with us, although the exact seat of the pain was not so easily ascertained. Were these two illnesses, then, only parts of one and the same essential disease? I was inclined to think they were, for, on very rigid questioning, a history was made out, of repeated attacks of lumbar pain occurring at intervals of two or three months, between this previous illness, extending back to at least two years ago, and the one which brought him in here, and which he himself stated on admission to have been of only five weeks' duration.

Now, considering these things along with the facts of the post-mortem examination, I do not think we can escape the conclusion that the aneurism was there all the time, and perhaps even before the former illness; when it may have been there without such symptoms as to attract attention. For we may, I think, regard it as probable, if not certain, that an aneurism in this situation, and of such limited dimensions, could have had no obvious symptoms, and probably no physical signs of its existence, until it began to erode the body of a vertebra. The history, as in our Ward journal, is as follows:—

"Pat. Sheridan, æt. 29. Two years ago he was attacked by pains in the loins. This was worse on the left side. At this time his urine was scanty and high coloured. Patient says it was of a bloody colour. [Probably a misconception, as it was found to be normal in the Royal Infirmary.] He consulted a doctor, who gave him a mixture and applied a fly blister. The pain not being relieved he was taken to the Royal Infirmary in a cab, July 7, 1891. He was too ill to walk. He remained there sixteen days, and was dismissed 'Well,' July 23rd." [The brief report of the case in the Royal In-

* It is incidentally stated that there was "accentuation of the second sound of the heart"; but there is no other indication in the report either of vascular or of any other organic disease.

firmly is quite in accordance with this, except that it carries back the illness only three weeks from the date of admission, when he complained of "pain in the small of the back to left side, from no assignable cause." This is not quite the statement he made to us, but it shows that he had not anything definitely in his own mind as the starting-point of the first illness.] Our own report now proceeds:—"He returned to work at once, and has continued to work up to the time of his present illness, but has had slight attacks of pain in the loins every two or three months ever since, not sufficient to keep him from his work."

One additional fact of some importance was obtained subsequently by Dr. Carslaw from patient's relatives, but was not known to me during his life; viz., that at the time of the commencement of the former illness, which obliged him some months later to enter the Royal Infirmary, he got a severe strain while working as a slater (his regular occupation) on the top of a house; the strain was accompanied by a severe orchitis.

This strain is of great importance, because, on the one hand, it may have been the starting-point of the whole of the pathological changes; or, on the other hand, it may merely have been the developing point of a disease previously existing. The condition of the aorta, showing atheromatous dimpling and incipient aneurisms, in several places, favours the latter conclusion. You will remember, perhaps, that when Dr. Coats at first laid open the aorta near the heart it seemed to me at the first glance so free from disease or dilatation as to afford little confirmation, so far, of the suspicions we then entertained; and yet Dr. Coats was able to show you afterwards* that the foundations not of one, but of several small aneurisms, had been laid in this part of the vessel. Now, any one of these, acted on by the sudden shocks and impulses which are implied in the word "strain," might have led to further yielding, or even a breach of continuity in some of the coats of the vessel such as would have given rise at once to a sacculated aneurism such as we actually found lower down. "Strain," therefore, although it will not readily give rise to an aneurism in a previously normal aorta, will be almost sure to precipitate the course of formation

of an aneurism, where the coats of the vessel have been predisposed to yield at one or more points. And in this case the seat of the aneurism just above the diaphragm is very likely to have been in some degree determined by the strain which gave rise to the orchitis.

The first instruction, therefore, we must draw from this case, is that "lumbago" (so-called) connected with a strain like this should always be looked upon with suspicion, as, even though an apparent recovery may be made at the time (and even for months afterwards) it may cover an important organic lesion, aneurism as probably as any other.

The patient's own ideas about all this were rather misleading. He did not at all seem to recognise this continuity of his symptoms with the strain as their first cause. Note that he did not connect the second illness with the first, but ascribed it to "exposure," the nature of which was not quite ascertained.

He had also got the idea, in what way is not certain, that he was a sufferer from "bronchitis," and he came to us labelled as such.

He took to bed only a fortnight before his admission to the Western Infirmary; and it was inevitable, under these circumstances, that the chest, or rather the lungs, should have been under suspicion from the first.

Undoubtedly after his admission, our minds ran on something more than either bronchitis or lumbago. What it might be, was very doubtful at this time.

In this doubtful state, our attention was attracted to the temperatures,* which were very strikingly and persistently febrile, several times touching 104°, and for days together mostly 102° and 103°, or upwards. Here, at least, then, was a purely objective fact, about which there could be no possible mistake, as you will see from the record; and yet, in its influence on the diagnosis as we understood it, this fact was rather misleading than otherwise. Temperatures such as we had in this case, are not consistent with mere bronchitis, or with any chest affection yet disclosed by the physical diagnosis. Nor are they more consistent with mere lumbago or any kind of neuralgic pain. Thus far we were justified in founding upon them. But they seemed also to suggest some deep suppuration or other well-marked inflammatory disturbance, although there were no rigors observed. Another

* Extract from "Pathological Register," No. 3185. "The heart is rather small, weighing 8 oz. Its muscular substance is pale. In the first part of the aorta there are two considerable atheromatous patches. In one of these there is a considerable dip, constituting a small aneurism, and in the other a slight dimple of similar character."

* See chart at the end of the lecture.

suspicion entertained, not unreasonably, I think, was of acute miliary tuberculosis. But no positive evidence was obtained either of this, or of any other disease of the lungs, and the little expectoration that there was, showed no trace of the *bacillus tuberculosis*. The suspicion of an aneurism, if it arose at all, was dwarfed and thrown into the background by these others, for a reason that will appear presently.

After my mind had turned over these possibilities, I asked Dr. Macewen to examine the patient with me, to see if he could find any evidence of deep-seated suppuration in connection with the bones or elsewhere.

Dr. Macewen did so, and came to the conclusion that there was probably something connected with the spine; stating, I think, that spinal disease not infrequently leads on to such complications as were witnessed in this case. Just at this time, eight days after admission, Dr. Middleton discovered a new fact; we are justified, I think, in calling it so, because both Dr. Carslaw and I had examined carefully, and with the expectation of something of the kind in our minds, without detecting it, only a day or two before. This was a very distinct want of expansion on the left side of the chest, with dull percussion at the base, and a want also of good respiratory murmur. From this moment it was plain enough that the left pleura was in some way involved; and as disease of the vertebral column in the dorsal region not infrequently leads to empyema, it was, or seemed to be, very probable that an infecting caries or osteitis of the bodies of one or more vertebræ might be giving rise to secondary suppurations, which would amply account for the high temperatures observed. Thus we were led to entertain the idea of empyema, or at all events of acute left pleurisy of secondary origin, as the cause of the more obvious symptoms. Now you see that this was wrong, there being no empyema, though there was, indeed, disease of the vertebræ, as you yourselves witnessed, the result of aneurismal erosion. It is somewhat remarkable that I cannot find much in the text-books, or even in special monographs, about elevated temperatures in aneurism. Trusting to my own recollections, I should say that the rise in temperature in most cases of aortic aneurism is not considerable. I can rely on this impression with the more confidence owing to one fact; that in many of these cases I have been in the habit of giving potassium iodide, sometimes in large doses, and for months continuously.

Now potassium iodide is a drug, which, when it disagrees, is apt to produce high temperatures. Yet I can remember cases, not a few, of large, some of very large aortic aneurisms eroding the bones, in which potassium iodide was so given, and the temperatures carefully watched and recorded from day to day, without any appreciable rise being observed. One case, some years ago, stands out in my memory as an exception to this remark. The man had aneurism of the arch of moderate size, manifestly impinging upon and eroding the manubrium, and giving rise to evident pulsation. We treated him with potassium iodide and rest, with the gratifying result that the aneurism appeared to recede, all the symptoms disappeared, and virtually the man appeared to be cured; only he grew thinner, his temperatures became unstable and frequently febrile, and after some months he died of a kind of gangrenous phthisis, no doubt the result of infection, and not necessarily tubercular. The aneurism preparation in this case is in the Pathological Museum.* I have, therefore, rather good reasons arising from my own experience for the statement that temperatures running up to 103° or 104° , and maintained almost constantly febrile for days together, do not as a rule suggest, or even render probable, the existence of an aneurism. Nevertheless, it must be taken as one of the lessons of this case, however we may explain it, that even a relatively small aneurism in the dorsal region, impinging upon the vertebræ, and not otherwise giving rise to pressure or displacement (unless perhaps of the sympathetic) *may*, under certain circumstances, influence the temperatures to the extent here shown. The impressions conveyed to my mind, however, were distinctly in favour of an

* *Museum Catalogue*, p. 47, Series II., No. 71: "Aneurism of Aorta; Erosion of Sternum; Occlusion of Carotid; Pressure on Pneumogastric; Gangrene of Lung." The case is much too long and complicated for fuller reference here, but the following brief details from the Ward journal, Ward I., D.D., p. 34, will give some idea of the facts, so far as they bear distinctly on the present subject. The patient, W. T., resided in the Ward from January 22nd to June 9th, 1884. Up to the end of March all the facts were favourable, the temperatures strictly normal, and the aneurism subsiding under the treatment stated, so as to give a strong hope of complete cure. Early in April the temperatures rose (max. 104.4°) so as greatly to resemble those in the present case, but without any marked local symptoms, and continued in a marked degree febrile up to the close. The fatal result was really due to the gangrenous necrosis of the lung (which, however, was entirely without factor, even of the parts after death). No hæmorrhage or other distinctly aneurismal incident took place in this case, and the death was by mere asthenia and emaciation, exactly resembling that of phthisis pulmonalis.

infective empyema, as already said. Now, although on Nov. 3rd, we had very distinctly obtained evidence of what we supposed to be empyema or pleurisy, and what really was a diffusion of this small dorsal aneurism in the direction of the pleura, I am not by any means sure, nay, I think it is scarcely probable, that an actual rupture into the pleural cavity had taken place at this time. The facts observed at the post-mortem examination appeared to Dr. Coats rather to be in accordance with a primary rupture into the cellular tissue first, and into the pleura some time later. I think it therefore possible that at this time (Nov. 3rd) there was nothing in the pleura, but that the tissues around the aneurism may have been greatly infiltrated, and so pushed the pleura before them, as to give rise to the physical signs as stated. Nothing further happened, and no advance of the supposed effusion took place until Nov. 12th, when such a sudden collapse occurred, that Dr. Carslaw reported that the man almost died and had to be pulled through by free stimulation. This we may very fairly interpret as a sudden burst of the aneurism into the pleural cavity, possibly then for the first time.

On November 13th I found that the effusion was greatly extending, the left side of the chest dull throughout; and on November 14th there was dextrocardia—a fact which had not been observed the day before, though Dr. Carslaw had carefully examined with that possibility specially in view.

Though my experience in these matters is not inconsiderable, having early turned my attention particularly to the subject of aortic aneurism in all its phases, and though I am familiar with aneurisms bursting on mucous or cutaneous surfaces, with more or less of hæmorrhage at intervals, sometimes for months before death, yet the circumstances of this case seem to me unusual, since I have generally found the bursting of aneurisms into the greater serous cavities to be followed by very rapid collapse, so that the case usually terminates fatally before the cavity has had time to become quite full.

This is certainly true of aneurisms bursting into the pleura and pericardium; in the case of those bursting into the peritoneum, their occurrence is so much more rare that my experience is not sufficient to warrant certainty, though it is probably true of them also. I have, however, even in the case of the pericardium, known a considerable time elapse (certainly several days) between the rupture and the death of the patient. I have even in one case known the facts observed at the post-mortem exa-

mination bear the interpretation that more than one burst had taken place, with an interval during which the earlier clot had become partially decoloured.

I am not of opinion that the operation performed by Dr. Macewen had any effect at all as regards the result in this case. Had the case been one of serous effusion, or of empyema, it was a fair presumption that it would have afforded relief. As it was, the patient died of a renewed hæmorrhage, and very suddenly at the last. The operation, however, clearly demonstrated that there was no inflammatory effusion or empyema. There was blood in large quantity, mostly clotted, and nothing else. Now, you may remember that as soon as I became aware that it was a case of hæmorrhage, I said to you at once that there was only two explanations worth while entertaining; one was aneurism, the other malignant disease of the lung or the pleura, or both. Remember that the post-mortem examination showed that probably the rupture had been first into the tissues, and secondly into the pleural cavity.* And even with the dead body before us, it was not quite easy for a while to determine the source of the blood, or that it was from an aneurism and not from malignant disease.

These then, Gentlemen, are the lessons to be learned from this case, and you will, I trust, now have a clear view of what I meant in saying to you that the interest, to you, of a fatal case goes far beyond the mere discovery of the cause of death. It was by working out clinical problems in this way that Morgagni gave such an incalculable impulse to our art in his great work.† Many observers before him had sought out causes of death, and discovered thereby pathological curiosities. Morgagni laid the foundations of modern medicine by his far-reaching method of critical analysis, "uniting clinical with pathological research by strict processes of reasoning, founded on multiplied observations." And it is his method, in principle, that we aim at following out to-day.

* Two separate bursts, attended with considerable or great immediate hæmorrhage, are at least very probable, as the following extracts from the "Pathological Register" will show:—"Left pleural cavity is occupied by a bulky blood-clot, which is partly entangled among adhesions. The amount of blood contained in the left pleura cannot be less than three or four pints, and it consists partly of older brown, sometimes stratified coagula, and partly of recent gelatinous clots."

† De Sedibus et Causis Morborum, per Anatomen indagatis, Venitiis, 1761. See remarks on this subject in my address to the Pathological and Clinical Society of Glasgow, "British Medical Journal," 1874, vol. ii., p. 515; or in "The Physician as Naturalist," Maclehoze, Glasgow, 1889, p. 302, et seq.

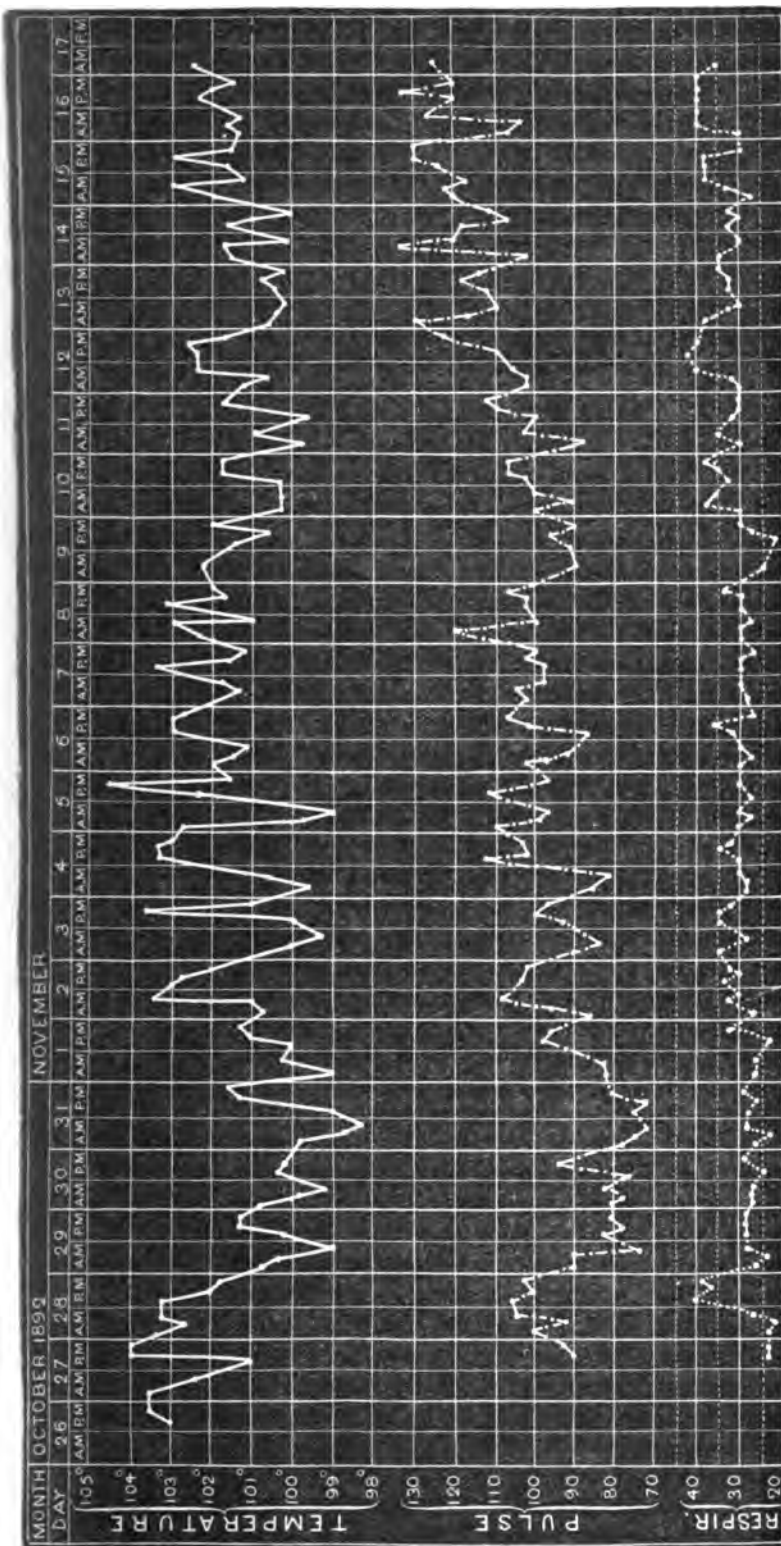


CHART TO SHOW * TEMPERATURE, PULSE RATE, AND NUMBER OF RESPIRATIONS PER MINUTE.

TREATMENT.

6th: Oct. 27th: B Ammon. Carb. ... 5j
Spt. Ammon. Arom. ... 5j
Vin. Ipecac. ... 5j
Syr. Cinnamon. ... 5j
Aq. ... ad 5vj
Sig. 5ss t.i.d.
Nov. 12th: Occasional Hypodermics of Morphia (4 gr.).
Whiskey, 5vj daily.

REMARKS.

Nov. 3rd: First definite observation of changes in Left Thorax, with suggestion of probable Em-pyema.
From Nov. 4th to 8th: Not much of any change during this period as regards physical signs or otherwise.
Between 10th and 12th: Very considerable increase of effusion in Left Pleura. Between 5 and 9 a.m. on the 13th
Nov. 13th: Dulness on percussion quite up to apex.
Nov. 14th: Dextrocardia noted.
Nov. 15th: Operation by Dr. Maccewen revealing Hæmo-thorax.
Nov. 17th: 4.30 a.m., Death.
* The temp. was taken at 1 a.m.; 5 a.m.; 9 a.m.; at 1 p.m.; 5 p.m.; and 9 p.m. On certain days it was not taken at 9 a.m. or at 9 p.m.

A LECTURE

ON SOME

CLINICAL ASPECTS OF CHRONIC
INTESTINAL OBSTRUCTION.

Delivered at the London Hospital on Nov. 30th, 1892, by

FREDERICK TREVES, F.R.C.S.,

Surgeon to the Hospital.

GENTLEMEN,—I propose to-day to make a few observations on some clinical aspects of chronic intestinal obstruction, suggested by the case of a patient now lying in Mary Ward, the recent operation upon whom some of you may have witnessed.

In general terms, the causes of chronic obstruction of the intestines may be classified as follows :

- (1) Stenosis of the small intestine.
- (2) Stenosis of the large intestine.
- (3) The condition known as faecal accumulation.
- (4) Chronic intussusception.

I propose to put aside the question of stenosis of the small intestine and of chronic intussusception, to limit myself to the one important point—the diagnosis between stenosis of the colon and faecal accumulation. Here is a patient with chronic intestinal obstruction. I have no difficulty in saying that the stoppage is located in the large intestine. The constantly recurring question is—is this due to a mechanical narrowing of the colon or to a non-mechanical obstruction, to what in fact is called faecal accumulation? Now, the chief mechanical causes of chronic obstruction—I am now speaking entirely of the colon—are (1st) stricture; (2nd) a tumour pressing upon the bowel; (3rd) kinking of the bowel; (4th) compression of the bowel by adhesions; (5th) enterolith.

The stricture may be either simple or malignant; the tumour may be any kind of growth capable of pressing upon any part of the colon, a common example being afforded by a malignant tumour of the uterus; kinking of the bowel is usually brought about by adhesions. Enterolith is uncommon.

But when you come to differentiate between these various causes of mechanical obstruction you will find that the work is difficult, often impossible, and usually unimportant. And I want you to distinctly understand that the more urgent and more common aspect of the case takes the form not of fine distinctions between this variety of stenosis or that, but involves the greater questions—is the obstruction

due to a mechanical cause, or does it depend upon mere blocking of the unaltered bowel? is this mass I feel a malignant growth, or is it a faecal mass? It is to this latter point I shall mainly keep. It concerns a problem which is often before the practitioner, and which can very seldom be lightly disposed of.

It is convenient here to mention that in carcinoma of the intestine it is only in forty per cent. of the cases that any tumour will be found. Though the patient in Mary Ward has been at different times under observation for more than a year, yet no tumour was detected, although the diagnosis of cancer of the sigmoid flexure made some twelve months ago was confirmed by the operation.

In forming a conception of cancer of the bowels let me endeavour to bring a general picture of the trouble before your mind. The patient is at or over middle-age. (This may be a matter of some consequence, because faecal accumulation is met with in quite young persons.) There will nearly always be a condition of impaired health for which you will find no definition. The bowels possibly act well; the patient is able to go about his business and to do it, but not with the same ease as in former years. Small things irritate him; he is perhaps gradually increasing the amount of stimulants he takes—a very suggestive point. There is no wasting, and the tongue is clean. He is not well, and yet he cannot claim that he is specifically ill.

In due course his bowels begin to give him trouble; he will say he wants a pill, that his liver is out of order, or is not acting at all, or is acting too much—terms used by the public, but which no medical man can tell the precise meaning of. There is a certain amount of general uneasiness within the abdomen. Up to this time the cancer, although still a very small growth, will have produced a moderate narrowing of the bowel, a stenosis sufficient to make itself felt, but not to produce grave inconvenience. In time, however, more solid particles within the intestine block the narrowed lumen, and the patient has a definite obstructive attack. That will prove probably to be the first appearance of the trouble. He goes to his medical man, who very properly gives him an aperient; he gets well again, time goes by, and the thing is almost forgotten until he has another attack. As months go by these attacks recur more often and become more and more severe, and the rest you can imagine for yourselves.

Another aspect of the case is this: the patient, after feeling ill, and after realizing that his bowels are not as comfortable as they might be, has diarrhoea. This is an important point to bear in mind—that diarrhoea very often goes with stricture of the bowel, especially when it is situated low down. You should, therefore, never omit to examine the rectum in cases of persistent diarrhoea. Such cases mean this, that there is a narrow strait in the intestine, that there is an accumulation of faecal matter above that point which induces catarrh, and leads to the formation of much mucus which dissolves and washes away some faecal matter, and the patient has what he calls diarrhoea—what we know as “spurious” diarrhoea. These, then, are two phases of the case—the patient who has obstructive attacks, and the patient who has persistent diarrhoea.

Now to mention the case of the woman in Mary Ward. She is 45. She comes here in November, 1891, with nearly complete obstruction. She was for a while unable to pass anything. She has a history of bowel trouble extending back to eighteen months ago. She was treated with massage, enemata, and aperients, and the bowels act again; she goes away apparently well, has many other attacks, and ultimately comes back again in the same condition, with a distended belly, and passing absolutely nothing. I cut out seven inches of the sigmoid flexure and united the two ends by sutures, and closed the abdominal wound. Since then she has considerably improved, her bowels have acted several times a day, and she is free from pain. I might say that I make the union of the divided ends of the bowel direct, placing a continuous suture in the mucous membrane, and interrupted sutures in the other coats, but I use no bone plates, clamps, or other apparatus.

Now take the case of an individual whose bowels are obstructed by the accumulation of faecal contents. Such a man takes his food, it leaves the stomach, and passes through the small intestine, and reaches the colon; there it stops, and a certain set of symptoms result, which are more or less characteristic. The patient is dyspeptic. He is troubled with flatulence and distension. He complains of water-brash. He feels ill and depressed. He is often melancholic or hypochondriacal. His tongue is coated, his breath foul, and there is a constant sense of an unpleasant taste in the mouth. Those who furnish personal testimonials to quack remedies for constipation often describe these sub-

jective phenomena very graphically. The patient is probably irregular in his meals, and careless in his diet. He never feels comfortable in the abdomen, and is troubled with more or less obvious constipation.

In one class of case the trouble is apparently due in the main to imperfect digestion, and to the simple accumulation within the colon of food debris. In another series of cases the consumption of too little fluid with the food appears to be a cause; and in a third class of case a certain nerve weakness would seem to be at the foundation of the trouble. The ordinary neurotic person is the subject rather of diarrhoea than of constipation, but there are nervous individuals who appear to have lost the power of peristalsis in their intestines, and who come into the category now discussed.

To follow further the train of symptoms, the constipation increases, aperients lose effect, and often set up nausea and pain; the appetite fails, and there very often supervene the symptoms of a certain degree of obstruction, viz., pain, vomiting, and a sense of increased distension.

I have hitherto kept clear of the question of any tumour in the bowels, but now I come to that point, and I may introduce it by drawing attention to the method in which the abdomen should be examined. In the first place, it is important that the examination should be done slowly—slowly, I mean, not so much with respect to the length of time occupied in the whole examination, as to the separate movements of the hand. Anything like a rapid handling of the abdomen excites a contraction of the muscles directly. Another point is: let the hands be quite warm, as a cold hand will also cause contraction. In order to get over any existing contraction of the abdominal muscles, make the patient take a deep inspiration and then hold his breath as long as he can. Presently the effort to breathe becomes absorbing, the air is allowed to escape from the chest, and the patient prepares for an immediate deep inspiration. At this moment his abdominal muscles relax for a moment, and give the surgeon an opportunity of a more close examination of any suspected tumour. Always remember, before concluding the inquiry, to examine the patient on his hands and knees. This is an excellent position for an exploration of the abdomen. In this position the viscera fall forwards against the anterior parietes, and the muscular abdominal walls are relaxed.

Lastly, you must never omit to examine the

rectum. Two points about the rectum are worth observing; the first is the ballooning of the rectum, which you discover on introducing your finger into the bowel; the cause of this condition has not been fully explained. It is assumed to be a symptom of stricture of the bowel, and it is often found associated with that condition. It is, however, often absent in cases of stricture, and I have noticed it in association with peritonitis, and with suppuration about the cæcum. The second point has reference to the passing of the long tube. This is a futile method of examination. I have fully demonstrated on another occasion that it is impossible to pass the tube out of the sigmoid flexure.

The last detail in the examination has reference to the lump. Having found the lump, the often repeated question comes, is it a fæcal mass, or is it carcinoma growing about the bowel? The lump due to fæcal accumulation is nearly always tender. Now this may appear puzzling; you say, it is merely a foreign body, and if so it cannot possibly be tender. Why should the fæcal mass be tender? True, it is a foreign body; but more than that, it is a decomposing foreign body which injures the bowel as a chemical irritant, and also by direct pressure. A stercoral ulcer is produced, and when you press the lump you press a piece of ulcerated bowel between the thumb and the fæcal mass; on the other hand, the mass of malignant disease is usually not tender, and appears to only become tender when the peritoneum over it is inflamed. Another point of distinction is this—the fæcal mass is, as a rule, more movable. The third thing is that the carcinoma is much more nodulated. The nodules in the fæcal tumour are due to distended sacculi; they depend, in the matter of size and position, upon the disposition of the sacculi. The nodules in the carcinoma are usually smaller; they are irregularly disposed, and have an arrangement which it is easy to say could not depend upon a sacculated colon. The last thing is—the carcinomatous lump is very commonly flat on the surface; this depends upon the fact that, in growing, it is moulded by the wall of the abdomen. But in the case of the fæcal mass there is nothing to prevent the collection from forming a complete cast of the intestine.

So much for the tumour. Certain other physical signs, however, still remain. There are two questions to be asked the patient: do the bowels rumble, and are there sounds like water in motion

to be heard within the belly? or is he conscious of movement in the abdomen—are coils of intestine to be felt and seen through the parietes, moving slowly like large snakes? In the case of fæcal accumulation, no such action will be found to be going on. You cannot realize a case of fæcal accumulation until you realize an intestine in which movement is practically wanting. The condition of the abdomen in such an instance is simply that of a huge, flabby torpid sac. Gripping pain or rumbling noises indicate some degree of active peristalsis. In the case of stenosis of the bowel, the intestine is perpetually making an attempt to overcome the obstruction. What is the result? The patient says that his bowels make so much noise that the sounds can be heard by others in the room. There is constant activity. The belly seems never to be at rest. In advanced instances the coils can actually be seen moving about beneath the parietes. Such coils have become so hypertrophied from continued efforts that they actually become visible. This is a state of things not compatible with the condition known as fæcal accumulation: it points rather to a mechanical narrowing of the colon which the bowel has been making a persistent effort, day by day and week by week, to overcome.

The other points I would allude to are these. The subject of carcinomatous stricture does not usually have that foul condition of the tongue and breath which is almost inevitable with fæcal accumulation. The victim of the later condition appears to be poisoned by the absorption of decomposition products from his own intestine and, indeed, some of the general symptoms met with in advanced constipation are not unlike those due to poisoning by sulphuretted hydrogen.

There is no time now to go into the question of treatment. The treatment of fæcal accumulation consists chiefly in diet, the use of aperients, enemas, and in massage. The diet is almost entirely indicated by the advice: "Give the patient such food only as will leave the least possible residuum in the intestine"; avoid milk, attend to the digestion.

As to the question of aperients, change them frequently. Calomel, repeated in small doses, answers well. Castor oil cannot always be taken on account of the nausea produced.

The enema should, when possible, be given in the knee and left shoulder position. The best instrument for the purpose is Lunn's insufflator.

Massage, perhaps as a single measure, is of the

greatest service in cases of faecal accumulation. It is needless to say that it must be applied with discretion, and under the immediate direction of the medical man in charge.

The treatment of stenoses of the colon do not come within the scope of this imperfect and fragmentary discourse.

A LECTURE

ON

POST PARTUM HÆMORRHAGE.

Delivered in connection with the London Post-Graduate Course, by

AMAND ROUTH, M.D., B.S., M.R.O.P.,

Obstetric Physician, with care of Out-Patients, to Charing Cross Hospital; Physician to the Samaritan Free Hospital for Women.

GENTLEMEN,—I have chosen this subject as one likely to be of interest to those engaged in midwifery practice, because not only may this accident be met with at any time, often when least expected, but it must be dealt with promptly, or it may result in the death of the patient.

Post Partum Hæmorrhage may be divided into two main classes: (1) *Primary*, (2) *Secondary*. I shall not concern myself with the arbitrary lines laid down in text-books, to separate these two varieties, but will content myself by suggesting that it is convenient to regard the hæmorrhage occurring whilst the accoucheur is still with the patient as *Primary*, and that which occurs after the accoucheur has quitted the patient as *Secondary Post Partum Hæmorrhage*. The latter may occur so late as some weeks after delivery.

Before discussing the abnormal states producing this hæmorrhage, let us recall what occurs in a normal condition after the child is born. Uterine contractions bring about a diminution in the area of the placental site, and the uterus remaining retracted, each subsequent contraction further diminishes the size of this area, gradually reducing it from an area, having a diameter of 7 to 7½ inches to one of 4 to 4½ inches.

There is thus produced a tendency for the placenta, which is inelastic and non-contractile, to become puckered up, and this produces a partial detachment of placenta, and a little blood escapes, causing mechanically a further

detachment during the succeeding uterine relaxation, and after a few pains the placenta becomes entirely detached. At the same time the sinuses are being compressed by the contracting muscle-fibres of the uterus, and thrombi are being formed in them, so that hæmorrhage ceases when retraction is complete. Further contraction of the uterus expels the placenta into the vagina, whence it is expelled by pseudo-voluntary effort. We can help the third stage by grasping the uterus with the hand, a method to which the term *expression* is applied.

As the most important indication is to prevent the hæmorrhage, I will enumerate briefly the causes of Post Partum Hæmorrhage. Forewarned is forearmed.

The *predisposing causes* may be divided into three groups, (1) *General*; such as luxury, sedentary habits, change to a tropical climate in the case of those used to a colder one, early or advanced age, the fact of the patient being a multipara. (2) *Particular*; such as alcoholism, Bright's disease, especially granular kidney* (high arterial tension), hæmorrhagic diathesis (?), systemic congestion, due to heart or lung disease, and portal congestion. (3) *Local*; such as delayed labour tending to inertia; too rapid emptying of a quiescent uterus, such as may occur after the use of the forceps in complete inertia, or after forcible traction on the body when the head is born; over-distension of the uterus, due to hydramnios or multiple pregnancy. When any of the causes are present, it is well to be prepared to deal with Post Partum Hæmorrhage.

Primary hæmorrhage may take place from the placental site, or some other portion of the genital track. It is important to ascertain quickly, whether the hæmorrhage is, or is not, from the placental site, as the treatment will be different.

Hæmorrhage from the placental site may be due to the following causes: (1) *Partial non-detachment of the placenta* is a cause of Post Partum Hæmorrhage, as it prevents retraction of the placental area immediately round the still attached portion, and thus also prevents thrombi forming in the sinuses. The non-detachment may be the result of *physiological union*, due to inertia uteri, or paralysis of the muscles of the placental site, or it may be the result of *pathological union*, due to pre-existing placentitis, organization of extravasated

* In forty-one cases of Bright's disease, twelve had Post Partum Hæmorrhage. (Blot.)

blood, calcareous degeneration, and more rarely myxoma fibrosum.

(2) *Retention of the detached placenta* also produces hæmorrhage by preventing proper retraction of the uterus. The main cause of its retention is inertia uteri, which occurs in cases of delayed labour or where the patient is a weakly subject. The placenta may be retained in the lower uterine zone owing to its excessive relaxation as a result of delayed labour, or as a result of atony from over-distension in cases of pelvic obstruction, and lastly, the absence of pseudo-voluntary efforts due to coma or very deep anæsthesia, or to the presence of a large abdominal tumour, may cause the placenta to be retained either in the uterine lower zone or in the vagina, while the membranes may be still trailing behind in utero, and so preventing retraction.

(3) *Irregular contractions* produce hæmorrhage by preventing uniform retraction and leaving certain sinuses unclosed. They may be caused by the administration of ergot before the child is born; by injuries; by the presence of fibroids; by obliquity of the uterus, which prevents the pelvic, uterine, and foetal axes being identical, and so hampers the uterine forces, placing them at a disadvantage.

So much for the causes of primary Post Partum Hæmorrhage from the placental site. I will now mention its causes from other than the placental site. It may be due to rupture of the uterus, cervix, vagina, perineum, a varix, or hæmatoma. Such a hæmorrhage though smart is not often prolonged.

Post Partum Hæmorrhage may also be due to acute inversion of the uterus, in which case whilst some of the oozing comes from the whole endometrial surface, the bulk is from the placental site. I have not the time to go fully into the question of inversion, but I may remind you of the causes producing it. When the placenta remains attached for a long time the cupping of the site, which may be seen during some cases of Cæsarean section, becomes a notable feature; the cupped portion is grasped by the surrounding muscular fibres and is thus driven downwards. Some consider that paralysis of the placental site produces inversion by the same mechanism. When the lower zone is unduly relaxed and Bandl's ring not well marked the excessive contraction of the upper uterine zone also tends to produce inversion. Apart from such spontaneous causes, dragging on the cord and forcible expression may result in the same accident.

This brings us to the *causation of secondary Post Partum Hæmorrhage*. In nine cases out of ten I

believe it is due to separation of adherent pieces of placenta or placenta succenturia or of membranes, after sudden exertion or after a big dose of ergot. For instance, on examining the size of the uterus, say a week or so after labour, the accoucheur may find it somewhat larger than normal, and may administer ergot, which detaches the placental remnant by subsequent contractions, and sinuses are exposed, brisk hæmorrhage resulting.

Another cause is secondary relaxation of uterine muscles from emotion or shock, or by sexual intercourse being resumed too soon. Finally, a sudden displacement such as retroversion with prolapse will produce it. In the latter case we not only have the hæmorrhage but also pelvic pain, which is absent in the more passive hæmorrhages.

Having passed in review the various causes of Post Partum Hæmorrhage, primary and secondary, we must apply our knowledge to the prevention of the occurrence of this evil, and I will commence by discussing the prevention of the primary variety. If from the patient's history we are properly on our guard, we must take especial care during the second and third stages to control and regulate uterine action and to sustain the patient's strength. Where the woman has been long in labour and in danger of becoming worn out, we must get her some rest, by opium or chloral, or help her by the judicious use of forceps. During the second stage place your hand on the abdomen, and gently press the fundus, and when once any part of the child has passed the vulva, your hand should never be taken from the abdomen until the third stage is completed and the uterus is well retracted. Keep the patient cheery and prevent her being unnerved by despondency, shock or emotion. I remember a case in point when I was a student. I was carefully following out these instructions in a case; the child was born, the cord tied and cut, and I was waiting with my hand on the uterus for the placenta to be expelled. Suddenly the nurse loudly remarked that the child was deformed. I crossed the room to see for myself, but hardly had I got across before I heard a gush of blood fall on to the floor, and I found my patient had fainted. Here was a combination of two untoward circumstances, mental shock and sudden removal of pressure. Fortunately, I was able to arrest the hæmorrhage, and my patient recovered, but the lesson has never been forgotten by me.

Where forceps can help, use them; but avoid continuous traction when the uterus is quiescent

and try to simulate the pains if they are altogether absent. Avoid giving ergot before the child and the placenta are delivered, for fear of producing the irregular contractions I spoke of, or tonic-contractions which are inefficient. Don't push the anæsthetic after the child's head is born, as it is then and later that the voluntary help of the patient is wanted. I rarely tie or cut the cord until its pulsation ceases. Finally make a thorough examination of the placenta and membranes to see if they are complete. Where one gets a definite history of previous Post Partum Hæmorrhage it may be of use to give the patient for some weeks prior to labour a course of iron or gallic acid, or such other drugs as her condition indicates. In such cases stimulants should be forbidden. When the hæmorrhage does occur what are we to do? Firstly, we must arrest it, and secondly, we must counteract the effects of the loss on our patient.

Our indications for the treatment of hæmorrhage are to imitate nature, by encouraging contraction and retraction of the uterus, and by producing thrombosis in the uterine sinuses. To fulfil the first indication the uterus should be firmly grasped and moulded so as to empty it by producing contractions. Hot or cold applications to the abdomen by means of sponges wrung out in them, or in the absence of better measures, by pouring them from a height on to the abdomen, and the administration of ergot *at this stage* are all recognised means of procuring tonic contraction of the uterus. *Remember, too, that inasmuch as an occasional cause interfering with proper uterine contractions is a full bladder,* it is advisable to catheterize whenever this is suspected. Certain direct applications to the uterine cavity such as vinegar or chloroform also provoke contractions. Iodine and iron not only provoke contractions, but are styptic as well. The most recently introduced treatment is that of plugging the uterus.

Let us, then, imagine that we are dealing with a case of Post Partum Hæmorrhage, where a piece of the placenta is still in the uterus. Having first rendered my hand aseptic, I pass it right into the uterine cavity, and feel for the adherent piece of placenta. Having detached and removed it, I press the fist which is in the uterus firmly against the placental site whose position is now known, whilst my other hand exerts counter pressure from outside. This would greatly diminish the hæmorrhage, and might induce contraction. Remove all clots, quickly re-insert the hand, and

knead the uterus gently, the other hand grasping it externally, so manipulating different parts of the uterus. Contractions will follow, and if steady external pressure is kept up retraction will in many cases take place, and the hæmorrhage will cease. Should it still persist, let the hand which is in utero press backwards so as to compress the abdominal aorta above its bifurcation. This is sometimes efficacious. At the same time give orders for a hypodermic injection of ergotin (Mx) or ergotinine (gr. $\frac{1}{10}$) to be administered. Also let heat and cold be applied alternately to the abdomen, and finally resort, if necessary, to intra-uterine applications.

When it is obtainable a small piece of ice can be carried up into the uterus and rubbed over its inner surface, but I prefer heat in the form of hot water at 110° F., as having been in my hands more reliable. When thus administered as a douche, it not only provokes contraction, but it also favours thrombosis.

A convenient domestic agent is vinegar, and as it is always at hand, it is of very great practical value. I have frequently known it used with success. Saturate a small sponge with vinegar and carry it up in the hand to the fundus. Squeeze it, or press it against the uterus, supported by the other hand from the outside; the vinegar runs down over the internal uterine surface, and almost always sets up a contraction. It can also be given by the mouth, half a wineglassful at a time, or it may advantageously be added to any hot douche used in utero.

Chloroform, usually equally available, when locally applied acts in the same manner as vinegar. Tincture of iodine also used as a douche, ʒj to the pint, is styptic, provokes contractions, and is antiseptic. It may be used undiluted in the same manner as iron, now to be considered.

The strongest styptic is iron. Some books recommend its use in the form of an injection. I think this method is risky, deaths having followed its use. The best plan of using it is as follows: having ascertained, if possible, the position of the placental site, dip a piece of cotton wool in some liquor ferri perchloridi (*not* liq. ferri perchloridi fortior), carry it up in your hand, held in forceps or on a long probe, and dab it over the placental site. Some accoucheurs prefer the solid salt, persulphate of iron, and use a solution of this (1 in 20).

The great points, therefore, in a case of primary Post Partum Hæmorrhage occurring from the pla-

cental site are—having emptied the bladder if necessary—(1) to empty the uterus of placenta and clots; (2) to provoke contractions of the uterus by bimanual manipulation, the administration of ergot hypodermically, and the alternate application of heat and cold to the abdomen; (3) to provoke contraction and thrombosis by the application to the uterine cavity of cold or heat, vinegar, tincture of iodine or chloroform, and, as a last resort, solution of iron salts; and if all these fail, plug the uterine cavity. This latter procedure perhaps is of more use after abortion than after a full-time labour, owing to the difference in size of the uterine cavity at the two periods. Having fixed the anterior lip of the cervix with blunt vulsellum forceps, the cervix is pulled down to the vaginal orifice, and the uterine cavity filled with strips of antiseptic gauze; they are pushed well up against the fundus, and especially against the placental site, if its position be known, and the ends left projecting to facilitate their subsequent removal. The uterus eventually contracts down on to the gauze, and in some cases the plugs are partly expelled into the vagina, unless, as some prefer, that is also plugged.

Where plugging is done after a full-time labour, it is wiser to obtain the further help of styptics by means of soaking the highest strips in iodine or iron solution. Plugging the vagina *alone* is of course useless. Where gauze is not available, lint or any aseptic material may be used.

Having succeeded in stopping the hæmorrhage, it becomes our duty next to treat the consequences of the hæmorrhage.

To relieve the collapse let the patient lie with her head low, and let the foot of the bed be raised. Auto-transfusion—the bandaging of one or all limbs so as to drive the blood to the more important organs—is useful. If you have only one bandage, it should be applied in turn to each limb, a cord or india-rubber drainage-tube being tied round each limb after the bandaging has more or less emptied the blood-vessels. This measure is painful after awhile, and is therefore a very temporary expedient.

To obtain the rest so urgently needed give opium, either in the form of liquor opii sedativus, ℞ xxx; or a hypodermic of morphia gr. ½, or in the form of a suppository containing ½ grain of hydrochlorate of morphia and 1 grain of extract of belladonna.

To restore the strength give raw beef juice and pepsine, either by the mouth or by the rectum.

Intra-venous saline injections (3j to Oj at 100° F.)

are much to be preferred to intra-venous transfusion of blood, as they can be given with greater ease, safety, and rapidity, the apparatus is less complicated, and the results are probably quite as good.

I saw recently a case of severe hæmorrhage due to rupture of the vagina and uterus. When I got to the house the poor woman was in a state of profound collapse; but, after some delay before the hot water and salt could be obtained, two pints were injected, and in ten minutes her pulse was 96, and she seemed but little distressed.

When there is time I prefer to lay bare the vein, pass two sutures underneath it, make the incision between these sutures, inject the fluid, and tie the vein by means of these sutures, first below and subsequently above the incision. Two to three pints may be given at a time. All the apparatus necessary is a suitable nozzle like this: some india-rubber tubing, and a glass funnel. Ordinarily, however, Richardson's or Galabin's apparatus, or a glass vessel to hang on the wall, similar to those used now for douching, enemata, or for irrigating wounds, should be used. In either case a piece of gauze or flannel should be placed at the bottom of the vessel before the solution is poured in, to prevent any undissolved salt or débris passing into the vein.

Whenever any internal manipulation has been resorted to, and more especially if the discharge become offensive, it is necessary to wash out the uterine cavity with a solution of corrosive sublimate (1 in 4000) or of tincture of iodine (3ij aa Oij) at a temperature of 110° F. Under any circumstances daily vaginal antiseptic douches of iodine and water, or carbolic acid and water, should be used.

The treatment of secondary is, as regards general principles, much the same as that for primary Post Partum Hæmorrhage; but if it should occur some days after labour, there is the additional difficulty of getting readily into the uterus. If due to sudden displacement the cause is quickly ascertained, and the hæmorrhage will cease soon after the displacement is put right. If due to sudden relaxation of the uterine muscles from emotion, the hæmorrhage will, as a rule, be transitory, and will yield readily to a combination of ergot, bromide of ammonium, and digitalis; or cannabis indica may be given alone.

If the hæmorrhage persists it becomes a question of dilating up the uterus. The patient being anæsthetised, I prefer to dilate rapidly with metal bou-

gies till I can admit an examining finger, the uterus being drawn down and held steady by vulsellum forceps. Possibly a piece of placenta may be then detached by the finger. Sometimes the cavity is thoroughly curetted with a blunt curette, the operation being completed by swabbing out the cavity through a speculum with a Playfair's probe covered with cotton-wool soaked in linimentum iodi. This provokes contractions and thrombosis, and renders the cavity aseptic; and if this proceeding be carefully performed the hæmorrhage rarely recurs, especially if a course of ergot be then administered.

Time does not allow me to even touch upon the treatment of the hæmorrhages, fortunately usually less serious, which take place from other places than the placental site.

CLINICAL NOTES.

(Specially reported for The Clinical Journal. Revised in each case by the Author.)

SOME CLINICAL OBSERVATIONS MADE IN THE WARDS OF CHARING CROSS HOSPITAL BY DR. MITCHELL BRUCE.

On a Case of Gastric Ulcer.

You have heard the clinical clerk read the previous history and the present symptoms of this woman. They all point to the diagnosis of Gastric Ulcer, a remarkably definite morbid condition, of which you must have a clear anatomical picture in your minds before you attempt to order prophylactic or remedial treatment for it. The patient has suffered now for four years from—

(1) *A persistent continuous pain* in the epigastrium, passing through to the back, a pain which is increased by taking food, by movement, and by pressure.

(2) *Vomiting*, which comes on after taking solid food, not as a rule after liquid food, though even then it occasionally occurs.

(3) *Hæmatemesis*, the blood being occasionally red, occasionally dark and clotted.

Of these three symptoms, the first, the cardinal symptom of Gastric Ulcer, *a persistent continuous pain*, undergoing exacerbations such as I have mentioned, is the most important symptom in Gastric Ulcer. The patient has suffered from this

for four years, off and on; that is to say, during certain portions of this time the ulcer has temporarily healed. You should remember that a chronic Gastric Ulcer, such as this would be termed, is, to use Niemeyer's paradox, an acute disease; or, more correctly, a recurrent Gastric Ulcer having periods of rest and healing, alternating with periods of activity and breaking down. When it is in this state there is the persistent pain, which, with its other characteristics, is typical of Gastric Ulcer.

The *vomiting of Gastric Ulcer* has a definite relation to the taking of food, sometimes occurring so rapidly that the patient has to get up and leave the table after a few mouthfuls of food. It is not, however, so characteristic a symptom as the pain, and is often absent. It is not advisable, therefore, to over-estimate its value or regard it as a cardinal symptom; and, particularly, we must be careful not to deny the existence of Gastric Ulcer because the patient is never sick.

Hæmatemesis is of two kinds, one being due to the ulceration opening up an artery, the other rather due to irritation of the surface. In the first case, the hæmorrhage may be excessive. This patient tells us that she has vomited up as much as a pint of blood at a time. The blood is retained in the stomach for some few minutes before it is rejected, and, during this time, the patient has more or less nausea and faintness, and feels obliged to lie down. If due to irritation, there is not the same shock, as the hæmorrhage is not so profuse. The fact cannot be too strongly impressed upon you that these attacks of hæmatemesis are particularly liable to occur at the menstrual periods in women.

The *indications for treatment* in Gastric Ulcer are:—

(1) Rest, general and local.

(2) Local treatment of the ulcer, by means of drugs administered through the mouth.

(1) *Rest, general and local*, is ordered on the great therapeutical principle that rest promotes repair. *General rest* of the body is obtained by putting your patient to bed, and keeping her quiet there. As a rule, this step in the treatment, which is by no means generally observed by practitioners, is quickly followed by a diminution in the severity of the symptoms. *Local rest* of the stomach is obtained by avoiding everything which distends it, excites muscular movement, stimulates the secretion of gastric juice in quantity, or brings irritating matter, such as solid food, in contact with the ulcer.

We therefore order fluids only, such as beef tea and milk; we give them in a peptonised form to excite less functional activity in the stomach; and we direct them to be administered cold, as they are then less likely to irritate. As to the amount, we give from one teaspoonful to five tablespoonfuls at a time, according to the severity of the case; I cannot lay down any definite rule, but prefer in each case to feel my way. In no case, however, do I give more than five tablespoonfuls every two hours at first.

For several days after an attack of hæmatemesis I give no food by the mouth, but entirely depend on nutrient enemata. Peptonised milk or beef tea, in quantities of four or five ounces, with half the yolk of an egg, administered every four hours, will be found sufficient. Where necessary, brandy and opium in the form of tincture can be added, one tablespoonful of the former, and ten to fifteen minims of the latter, according to circumstances. In this Hospital we never have any serious difficulty in keeping young women on these nutrient enemata for weeks at a time, rejection being most uncommon.

The best drug to administer, with a view of assisting the ulcer to heal, is bismuth. I order twenty grains of subnitrate of bismuth every few hours. Its action is not only sedative to the stomach, but it probably forms a protective covering to the ulcer.

With this dietetic treatment, general and local rest, and bismuth as a gastric sedative and protective, the pain will entirely disappear in most cases; in other cases it is necessary to give some anodyne. We may then give by the mouth the solution of hydrochlorate of morphine; or if this fail to relieve or be rejected by the vomiting, a hypodermic injection of morphine may be administered, according to the urgency of the patient's condition. In other instances the endermic method may be used, by blistering the skin of the epigastrium, and then dusting over the sore with a combination of starch and acetate of morphine.

When after a fortnight's treatment (this time being chosen as the period usually occupied by the healing of the ulcer) all pain and other symptoms have disappeared, we allow the patient to sit up for about an hour; and if there is no recurrence of pain, we increase the time each day. I do not allow any solid food until the patient has been up for two days at least without recurrence of pain, and then I proceed very cautiously, allowing her at first to eat only a little custard pudding or bread and milk, and then boiled fish.

The morphine I stop when the pain is controlled.

The bismuth may be continued indefinitely, unless it increase the constipation naturally present in all these cases.

I do not say that it would not be equally beneficial to gradually increase these patients' dietary before they sit up, being guided by the same indication as before—the recurrence or absence of pain—as to continuing it. It is not, however, in my opinion good practice to simultaneously permit the two liberties together—the sitting up and the solid diet—without first feeling our way with one alone. The important point is to be not only systematic but as *simple* as possible in our therapeutical measures, so that we may have little difficulty in interpreting their effects. This is the routine treatment of Gastric Ulcer practised in these wards, and invariably, we may say, with success.

Hæmaturia occurring during Chronic Bright's Disease.

The urine of this child, and that of a man in another ward, resemble one another in that they are "smoky" in appearance, owing to the presence of blood in the urine.

Both are cases of chronic Bright's Disease.

The Hæmaturia points to an acute exacerbation supervening on the chronic disease, due to congestion of the kidney. The most common causes of this congestion are chill and errors in food or drink. In both these cases the cause was chill. I call your attention to the clinical importance of these cases, on account of their imminent danger. The congested kidneys have been relieved by hæmorrhage into the uriniferous tubules. Some of the blood has escaped, as we see, with the urine, and this portion need cause no alarm. But is it all escaping? Some is now probably coagulated and filling these tubules in the form of little plugs, or "casts," as we call them when they are found in the urine. In these plugged tubules the secretion is stopped, and consequently there is danger of uræmia. When the man was admitted he had headache and muscular twitchings, and might be regarded as in the early stage of this grave condition. He has much improved by rest in bed, warmth, purgation, and proper diet. I give such cases milk, not only to avoid the formation of toxic products, but further and chiefly, because it is a *very active* and a *perfectly bland diuretic*.

If hæmorrhage persists, dry cupping over the loins is sometimes very useful. When it has stopped, diuretics are indicated to wash the plugs out of the blocked tubules. The question as to which is the most suitable diuretic is a very difficult one. Milk and distilled water are the best; and along with these it is naturally safer to order saline diuretics, such as the citrate and acetate of potassium, than direct stimulants of the renal circulation, such as juniper, turpentine, or nitrous ether. Free and regular purgation must never be omitted in these cases.

THERAPEUTICAL NOTES.

Abortive Treatment of Bubo:

According to Dr. Welander an injection of fifteen minims of a one per cent. solution of benzoate of mercury in the neighbourhood of a bubo will prove an abortive form of treatment.

(*Prager Med. Woch.*)

Salol as a Prophylactic against Gall-stones:

Dr. Strisover recommends the continuous use of 4 or 5 grains of Salol or Salicylate of Sodium as a prophylactic against gall-stones.

(*Nouv. Rem. Allg. Med. Cent. Ztg.*)

Benzine as a local application for Pityriasis Versicolor and Boils:

In cases of Pityriasis Versicolor, Langdon uses Benzine as an antiseptic and an antiparasitic application. Applied to the affected part by means of a piece of cotton wool previously moistened with it, a complete cure is said to be obtained in three days. For boils it must be applied in the same way, but at the same time it should be firmly but gently rubbed in. The applications should be made about every two hours during the first day, and then two or three times in 24 hours.

(*Deutsche Med. Wochenschrift.*)

Coffee as a Cause of Pruritus:

Dr. Brown Sequard again draws attention to the fact that occasionally Pruritus Ani depends upon drinking coffee, and publishes a case in which leaving off the beverage completely cured a case, the malady returning on recommencing the beverage.—(*Therap. Monat.*)

Enemata of Salt Solution for Vomiting of Pregnancy:

Dr. Weist of Vienna recommends large enemata Oij to Oij of warm $2\frac{1}{2}$ p.c. Sodium Chloride Solution for the persistent vomiting of pregnancy. The injection is to be used at first twice a day, but probably he says not more than half a dozen will be required.—(*Centralbl. für d. gesam. Therapie.*)

Hypodermic Injection of Infusion of Digitalis:

Dr. Zienetz strongly recommends the following method of subcutaneous injection of digitalis when the ordinary method of giving it by the mouth has failed. He takes 5 grains of dried digitalis leaves, and pours on them 2 ounces of boiling water, and injects 5 to 10 mins. of the resulting infusion.—(*Wiener Med. Presse.*)

Hæmoptysis as a Symptom in Aortic Aneurism:

Dr. P. Hampeln calls attention to the fact that slight Hæmoptysis continuing even for 7 or 8 weeks does not exclude aneurism of the aorta, in fact, if other obvious causes be not present, the symptom rather points to a hidden aortic aneurism.

(*Berl. Klin. Wochenschrift.*)

Antipyrin in Lead Colic:

Drs. Devic and Chatin relate two cases of lead colic, in which relief was obtained by antipyrin. In one case it was the first attack; in the other it was the tenth attack of colic, the latter patient also having well-marked extensor paralysis. One drachm during the 24 hours was administered.

(*La Province Médicale.*)

Ipecacuanha in Uterine Inertia:

Drapes says this remedy in simple atony of the uterus is a powerful agent in producing uterine contraction during the first and second stages of labour.

In general, two or three doses of from ten to fifteen drops of the wine of Ipecacuanha, given at intervals of ten minutes, produce in a short time marked activity of uterine action and a rapid birth. It is much better than ergot as it does not provoke tetanic contraction, but only induces normal and regular expulsive efforts.

A Substitute for the Nasal Douche:

Dr. Blocbaum no longer uses the nasal douche in removing crusts from the nasal cavity. He simply twists a long and thin roll of cotton wool on to a knitting needle, introduces it into the nose, and withdraws the needle, leaving the cotton in the nose. A second and third are introduced thus, until the entire cavity is filled. Then one may begin with the opposite side, and do likewise. In the course of a quarter of an hour, the mucous membrane begins to secrete profusely, and if the cotton is then removed, it will be found that it is saturated with secretion, and the crusts lie on the rolls of cotton, thus leaving a nicely cleaned cavity for the application of the remedies. He never applies any watery solutions. He uses ointments, which are rubbed into the nasal mucous membrane, or powders, which are insufflated.—(*Med. Record.*)

Knee Jerk as a means of Prognosis in Diabetes Mellitus:

Dr. Leuné gives the knee jerk as a symptom of great prognostic significance in Diabetes Mellitus. If it is absent or weakened the prognosis is bad in proportion to the diminution.

(*Munchen. Med. Woch.*)

Hypodermic Injections of Sulphuric Æther in Sciatica:

Dr. Chindamo obtained most astonishing results in cases of Sciatica by the subcutaneous injection of Sulphuric Æther. One or two injections daily at the seat of pain on pressure.

(*Centrbl. f. Klin. Med.*)

FORMULÆ.**Menorrhagia or Dysmenorrhœa. (Dr. Zurhelle, *Deutsche Med. Zeit.*):**

R. Pulv. Salipyrin.
Sig. gr.x ter die sum.

For Pruritus Vulvæ:

R. Potassii Bromid.
Lupulini ... aa 2 parts
Hydrarg. Subchlor. ... 10 parts
Ol. Olivæ ... 30 parts
M. To be applied to the parts occasionally, after well shaking the bottle.

For Hyperidrosis of the Hands. (*Deutsche Med. Zeitung*):

R. Acid. Boric. ... 5 parts
Sodæ Biborat. ... } aa 15 parts
Acidi Salicyl. ... }
Glycerini ... } aa 30 parts
Alcohol ... }

Sig. Rub some of this into the hands three times a day.

Chronic Cystitis. (Renaud, *Med. Rec. Allg. Med. Ztg.*):

R. Acid. Oxalic. ... gr.x
Syr. Aurant. ... 3j
Aq. ... ad Oiss
M. Ft. mist. 3j om. alt. mane.

Chronic Rheumatism. (*The Times and Register*):

R. Aconiti Tinct. U.S.P. ... 3iv
Ext. Hamamelis Destillat 3iij
Alcohol ... 3ij
M. Ft. liniment. Sig. Apply and cover with flannel.

R. Ferri Phosphat. ... gr.v
Lithii. Brom. ... 3vj
Aquæ Dest. ... 3iv
M. Ft. mist. Sig. Teaspoonful two to three hours in water.

R. Acidi Salicylici
Sodii Bicarbonat. ... aa 3ij
M. Chart No xii. Sig. One every two to three hours.

For Anæmic Headaches associated with Uterine Disorders:

R. Spt. Menth. Pip. ... 3ij
Ammon. Bromid. ... 3j
Tinct. Cannabis Indicæ 3j
Mucilag. Acaciæ ... 3iv
M. A teaspoonful in water three times a day.

For Laryngismus Stridulus. (*L'Union Médicale*):

R. Chloroformi ... ℥v to x
Glycerini ... 3j
Aquæ ... 3vij
M. One teaspoonful every thirty minutes, until the patient is relieved.

THE CLINICAL JOURNAL.

WEDNESDAY, DECEMBER 21, 1892.

A CASE OF UNILATERAL PHTHISIS With Early Excavation in the Middle Lobe.

Remarks on the Diagnosis of Apex Excavations; and on the importance of a careful Examination of the Axillary Region.

By W. EWART, M.D. Cantab., F.R.C.P.,
Physician to St. George's Hospital; Clinical Lecturer and
Teacher of Practical Medicine; Physician to the Belgrave
Hospital for Children; Late Assistant Physician and
Pathologist to the Brompton Hospital for Consumption.

THE case affording the subject for this clinical lecture might be regarded as an ordinary one of phthisis, calling for little notice. Yet I hope it will illustrate some important practical points, and some valuable lessons.

As originally described to me it promised to present some pathological interest, as an instance of isolated excavation at the anterior base of the right lung. It now proves to be a case of less unusual type, but it acquires clinical interest in connection with the causes which led to its being imperfectly diagnosed by myself and by others at the beginning.

Case and Early Physical Examinations.—I am indebted to my clinical clerk, Mr. Gayer, for the following notes:—M. H., æt. 25, married, has had two children, the second born eight months ago, and no miscarriages. Her father died of phthisis, aged 35, but her mother and all her brothers and sisters are alive and healthy. Her previous health appears to have been good, with the exception of measles and scarlet fever in childhood. She is of a nervous and excitable temperament. Her habits have always been regular. *Recent Clinical History:* She has been nursing her child till four months ago. Five months ago she had a fit of shivering and began to cough; has lost flesh since then. *The present illness* began a month ago with a sharp pain just above the right nipple, with aggravation of the cough, with shivering fits and night sweats, but did not take to her bed until admitted into the ward.

On admission: A pale, frail woman, with thin and pinched features, limbs wasted, and a weak voice. Temperature, 99°6; pulse, 112; respiration, 36; tongue coated in the centre; cough moderate; expectoration mainly mucous, hyaline, confluent, with slight greyish and yellowish streakiness.

Examination of the Chest on October 22nd: Percussion.—Right front: The right clavicle and the supra-clavicular region yield a higher percussion note than the left; and these parts are slightly tender. Dulness begins at the lower border of the fourth cartilage, extending from the

nipple line to the sternum, and in less degree outwards so far as the axillary base.

Right back: The inner supra-spinous fossa, and the inter-scapular region in its middle third are slightly dull and tender. The base is dull in its outer half up to the level indicated in front. The vocal fremitus is lessened over the dull area. Left front resonant on percussion. Left back resonant.

Auscultation.—Right front: Nothing special noted at the apex. Below the fourth cartilage pectoriloquy is heard between the nipple line and the parasternal line. Internal to the parasternal line pectoriloquy is louder, and over a surface rather larger than one inch square very high-pitched tubular or cavernous expectoration is perceived after a long-drawn breath, together with harsh crackle.

Right back: At the inner supra-spinous region there is whispering pectoriloquy and (?) tubular breath sound. The tubular respiration is more distinct at a spot two inches to the right of the third dorsal spine. A transient rale is heard in this situation. At the base the respiratory murmur is much diminished, and likewise the voice sounds.

A subsequent examination on October 27th gave the same results. The rales over the small basic cavity were of decided cavernous type. There was no evidence of cavity either at the upper or at the lower part of the right back. On this occasion rather crisp, small rales occurred at the end of inspiration over the entire front of the chest. Nevertheless the respiratory excursion of the right chest was considerable, especially at the upper part, and this circumstance supported the negative evidence as to any apex excavation.

Progress.—The temperature oscillated through a range of 1½° above normal, except after examinations of the chest, when it rose higher. Night sweats occurred between 25th and 28th, but they ceased on the second night after taking the following pills, which I usually prescribe with success:—

℞ Quin. Sulph.
Zinci Sulph.
Ext. Hyoscyami aa gr.ij
Ext. Nuc. Vom. gr.j
M. Ft. pil.ij horâ somni omni nocte sumdæ.

She was allowed to get up after two weeks, and was found to have gained 3lbs. in weight. The following week she added 2lbs. to this gain.

Summary of the Case as Diagnosed.—Early phthisis, beginning during lactation, with rigors, but without much constitutional disturbance, and without hæmoptysis. Excavation at the right anterior base (middle lobe); dulness at the right posterior base, probably due to thickened pleura; dulness, pectoriloquy and tubular breathing at the inner portion of the right supra-spinous region; catarrh affecting the right lung in front.

COMMENTS ON BASIC EXCAVATIONS, PRIMARY AND SECONDARY: AND ON DISEASE OF THE MIDDLE LOBE.

The almost universal localisation of primary excavation at the apex, and its rarity at the base

made one regard with some diffidence the conclusions which the facts of the case seemed to impose; and whilst recognising the evidence of excavation I expressed the reservation that a careful search should be made over the right upper lobe before finally concluding in favour of primary basic excavation.

I cannot enter here upon a discussion of the influences which localize early phthisis, and therefore early excavation, at the apex. No satisfactory explanation has yet been given. Those hitherto proposed have been based—

(1) Upon alleged local peculiarities of the respiratory structures or functions; and

(2) Upon alleged peculiarities of the blood vessels and of the blood supply of the part.

(3) The lymphatics and their function might have been regarded as still more closely connected with the localisation of disease; but a theory based upon their influence has not been, as far as I know, suggested hitherto.

Of the *primary form* of tubercular excavation at *the base* it need only be said that it is rare. I show you a specimen in which the base was excavated first, the whole lung being solidified by caseous pneumonia.

In the vast majority of instances basic excavation, if present at all, is not only secondary in point of time, but also, as I endeavoured to show in the Gulstonian Lectures on "Pulmonary Cavities, their Origin, Growth and Repair,"* secondary by derivation. Starting from an idea, which I owed to my then colleague Dr. Reginald Thompson, that auto-infection of the lung by inhalation of morbid secretion into fresh bronchial districts was a probable mode of extension of the phthisical process, I attempted to prove that the implication of the lung progresses from above downwards *gradatim*; and that the implication of the upper part of the lower lobe may be taken to be secondary to inhalation from the upper divisions of the bronchial tree. I drew attention to the regularity with which secondary deposits of tubercle were found in the posterior lobes at their upper part, supplied by the large bronchial division which I have termed the "posterior-horizontal," and the branches of which are more fully described in my work on the Bronchi and Pulmonary Blood Vessels.† This

* See Lancet and B. Med. Journal, 1881.

† The Bronchi and Pulmonary Blood Vessels; their anatomy and nomenclature, with a criticism on Professor Achy's views on the Bronchial tree of Mammalia and of Man. London: J. & A. Churchill, 1889.

second implication of the scapular region of the lung has since then been noted by Dr. Kingston Fowler and by other observers. The base of the lung does not become involved until a yet later stage in the disease.

The Middle Lobe.—Most pathologists familiar with the morbid appearances of the lung in advanced phthisis will agree with Dr. Reginald Thompson's observations, and my own, that the middle lobe is the last to be affected. Often this is the only portion of the lung still containing air at the time of death, and very frequently it is then the seat of excessive inflation. In phthisical lungs it may be described as the *ultimum moriens*. This relative immunity and this final respiratory activity may have their explanation:—

(1) In the comparative small use made of this lobe (its inflation requiring energetic breathing) during the early periods, when the stress of respiration falls upon the more easily expanding lateral regions of the lung;

(2) In the hypostatic affections of the posterior bases, resulting from continued dorsal decumbency in the advanced stages; and

(3) In the supreme respiratory efforts at the final stage, calling once more into play the reserve of breathing tissue contained in the middle lobe.

You now thoroughly realise the unlikelihood of a primary excavation of the middle lobe, and my reasons for suspecting the existence of previous diseases elsewhere, in spite of the absence of obvious signs. From the first I was inclined to regard the basic excavation as a mere diverticulum from a cavity beginning higher up, and under this impression I undertook a more careful examination of the chest.

Physical signs found on Nov. 8th.—An examination of the right apex in front failed to detect any cavernous signs. At the outer part of the supra-spinous fossa I recognised distant cavernous breathing, but the senior students around me failed to obtain the same result. Returning now to the front of the same side of the chest, I detected decided dullness in the outer sub-clavicular region, close to the head of the humerus. You are aware that in this situation our percussion is really applied to the muscles rather than to the thoracic surface, which does not extend so far outwards. But the dullness, which taken alone would be very unreliable evidence, was associated with distant cavernous respiration extending over a narrow vertical area. Here again my companions did not succeed in confirming my auscultation.

The patient was then directed to raise the arm. Quite high up in the axilla, as far as the stethoscope could reach, and there only, loud and unmistakable cavernous breathing was heard, not only by myself but by each of the clinical pupils.

Further examination led to the discovery of an oblique strip of dullness, coinciding nearly with the lower border

of the Pectoralis Major, and extending from the axillary region towards the lower sternal border. Along this line, especially in its upper part, suction rales and creaking rales were heard, such as are produced in narrow cavities with fibrous walls. But this time the small cavity at the interior base gave no auscultatory signs, except dulness and loss of all respiratory sounds. On a previous occasion the cavernous sounds had been noted as absent, and had subsequently reappeared.

Final diagnosis.—Evidence was thus obtained of precisely that condition, the existence of which had been from the first suspected, although not then confirmed by any physical signs; viz., primary excavation at the apex, or rather at the upper axillary region, with a diverticulum extending to the anterior base. This conclusion was supported not only by physical signs, but by the alternate filling and emptying of the diverticulum, analogous to that which is observed in the sacculations of a dilated bronchus.

Prognosis.—Although the probability of temporary improvement is not excluded, the shape and the extent of the excavation in this case must be regarded as a very unfavourable feature. The persistent catarrh of the right lung is not only an ominous sign, but a source of danger, from the possibility of intercurrent broncho-pneumonia, and as affording a favourable nidus for the spread of bacilli. Against this may be set the patient's fairly good strength, and especially the limitation of the disease to one lung. In any case of phthisis this limitation is the first element towards recovery. From my passing allusion to auto-infection you may have gathered how easily the sound lung might suffer. Indeed, it is little short of marvellous that so often the second lung should escape, in spite of its permanent and almost direct contact within the chest, with a disease which invaded the first lung from without. Indirectly, disease of one lung is in some degree protective for the other lung, by reason of the *hyperventilation* it induces in the latter. This observation has a strong bearing upon treatment. Unfortunately the poor patient is practically excluded from all hope of carrying out the ideal treatment to be described, and prognosis in her case is not what it might otherwise have been.

Treatment.—Besides the pills mentioned above, tonics, strychnine and iron, cod liver oil, port wine, and a generous diet have formed what may be termed the general treatment. The *special treatment* of pulmonary disease is, I need hardly tell you, by air and through air. Climate is its basis; open air life its essential feature; hyperventilation of the lung its constant object, towards the attainment of

which altitude is a powerful aid. In dealing with the poor we are still deprived of the means of carrying out these indications. A very humble substitute is the *inhalation of dry medicated air*, moisture being unfavourable in phthisis. With this view I introduced some years ago a simple form of inhaler*, consisting essentially of a Woolffs' bottle, with a long air-supply tube ending in the medicated cotton wool or tow at the bottom, and a short extraction tube ending close below the cork. To the latter tube is attached a long india-rubber tube with mouthpiece, by means of which inhalation can be performed at a distance from the bottle, in any posture, and without any discomfort. The following solution is comforting and beneficial as a stimulant and as an ozonizing agent:

R. Sp. Chlorof.
Terebene.
Ol. Pin. sylvest.

aa partes aequales.

Of this two teaspoonfuls are to be poured into the bottle once or twice daily; and inhalation is to be performed for two or three minutes at frequent intervals (every two or three hours, or more frequently). It need hardly be observed that a great part of the advantage of this treatment resides in the respiratory exercise which it implies.

REMARKS ON THE AUSCULTATION OF THE AXIL-LARY REGION, AND ON SPURIOUS CAVERNOUS BREATH-SOUNDS IN THE SUPRA-CLAVICULAR AND SUPRA-SPINOUS FOSSÆ.

We may derive an important practical lesson from the history which has just been given. In all cases, as a matter of routine, but with special care in those where the suspicion of phthisis exists without manifest lesions, the apex must be explored from every side. Our percussion and auscultation should *work round the summit of the thorax inch by inch*. I shall presently give reasons why the upper axilla should be examined with special attention. In order to do this effectually we must direct the patient to place the *flat of the hand on the occiput*, thus abducting as well as elevating the elbow, and enabling the stethoscope to reach the second rib between the muscular folds of the armpit.

Spurious cavernous or tubular breathing is a fertile source of errors in diagnosis. It is especially apt to be heard in the supra-clavicular and inner supra-spinous regions, and it has its origin in an unusually loud conduction of the *tracheal sounds*.

* Supplied by Messrs. Cooper, of Gloucester Road, S.W. (close to Metropolitan Station.)

You are familiar with the anatomy of the *supra-clavicular* region. The upper thoracic opening is very narrow, allowing only a slender cone of lung to extend above the first rib and clavicle. The tissues, deprived in phthisis of much fat, are relatively good conductors; and tracheal breath and voice sounds are apt to be conducted by them and by bone and cartilage, so that it is often difficult to judge how much of the abnormal respiratory sounds is really pulmonary or merely conducted from the trachea.

Likewise at the back, the portion of the *supra-spinous fossa* over which the lung can be directly examined is small, the square part of the shoulder being devoid of lung, and the inner end of the supra-spinous region corresponding to the transverse processes of the 7th cervical and 1st dorsal vertebræ.

Outside the thorax the *medium of conduction* is most often bone. A certain amount of bony conduction is the inevitable consequence of the close anatomical relationship between the trachea and the cervical spine. The sound directly communicated to several of the vertebræ will spread to the entire structure of each, and may even be transmitted from them to neighbouring structures, especially to the head of the ribs. If you will place your stethoscope over any of the spines of the lower cervical or of the upper dorsal vertebræ, you will be struck with the loudness of the tracheal sounds conveyed by the slender laminae to the relatively distant extremity of the spinous process. The transverse processes are not quite so far from the trachea, and should, by reason of their more simple communication, receive a larger volume of sound. We have an opportunity of verifying this fact in connection with the lowermost cervical and with the upper two dorsal vertebræ in very thin subjects, and especially in those with sloping shoulders of phthinoid type. The transverse processes, usually buried in thick muscle, and well covered by subcutaneous fat, are in them much nearer the surface, although never so near as the spines. A glance at the skeleton will show you that the cervical spine broadens much at this part, and that the two first ribs present at their origin a sloping broad posterior surface which adds to the massive aspect of this section of the vertebral column. It is in this region, viz., at the inner portion of the supra-spinous space, that the conducted sounds are frequently heard. In phthinoid chests the greater slope of the ribs tends to approximate them to each other, thus favouring tracheal conduction.

The same remarks are in part applicable to the supra-clavicular regions. The upper thoracic orifice being very small in all its diameters, and specially small in phthinoid chests, the influence of the massive vertebral column as a conductor is in them proportionately great. The vertebræ may be said to receive the tracheal sounds in front, and to radiate them laterally. You will convince yourselves of this by the direct application of the chest-piece of your stethoscope to the side of the neck of any subject. In some subjects you will readily recognize the part played by the transverse processes in sound-conduction forwards and upwards. Again, if the lower cervical glands should be enlarged, they will probably take up the conduction and propagate the sound to spots not in direct contact with bone.

Passing now to *intra-thoracic sounds*, we must not forget that there is also a possibility of tracheal sounds being conducted through pulmonary substance. This, however, could only occur as a result of consolidation or of compression of the apex. Still the important question whether the sounds heard were those from an apex cavity or conducted from the trachea would have to be answered. I have said enough to explain to you that to be of use in diagnosis, your auscultation of these regions must be very discriminating; and that the due interpretation of tubular, of cavernous, and of blowing sounds at the front or at the back of the apex is no easy task.

HELPS FOR DISCRIMINATING CONDUCTED TRACHEAL FROM INTRAPULMONARY SOUNDS.

The similarity between the two sets of sounds is so great that an observer may sometimes have to decide for himself by intuition rather than by the strict results of physical examination; and having satisfied himself he may find it impossible to give reasons equally satisfying for others. The doubtful cases being precisely those in which phthisis is *prima facie* likely enough, he is deprived of the indirect help of collateral evidence pointing away from phthisis. Percussion may help; but it is well known that a thickened pleura giving rise to some dulness is a very common peculiarity at the apex, even in the absence of phthisis. The chief means at our disposal are two—

- (1) Alternate tracheal auscultation and
- (2) The auscultation of cough.

(1) *Alternate Tracheal Auscultation*.—The object is to compare the doubtful sound with the

undoubted tracheal sound. There are two ways of doing this, either by starting from the site of one of the two sounds and gradually working the auscultations up to the other site,—from the trachea, for instance, outwards to the supra-clavicular fossa or vice-versa;—or else by actually alternating the auscultations of the doubtful sound with those over the trachea. Posteriorly, instead of listening over the trachea it will be quite sufficient to listen over the spinous processes. By these procedures we may catch any point of strong resemblance between the sounds; or by tracing their continuity we may identify them as being one and the same.

(2) *The Auscultation of Cough.*—Never lose sight of the essential rule, often impressed upon you, that no auscultation is in the least trustworthy which has not tested the cough. In any doubtful case cough helps us in two ways. First, because it may bring out peculiarities purely tracheal, which might help us to identify the conducted tracheal sounds; and, secondly, because, if any latent pulmonary moist sounds should have been missed, they will then be brought out. If they be absent the likelihood of the sound being of a cavernous origin will be greatly diminished; if present, their character will give valuable and often decisive information. When large and cavernous, they proclaim the fact of excavation; when small and viscid rather than crackling, they indicate the presence of catarrh, and the absence of excavation in the superficial layers of the apex, although not necessarily in the depth. I venture to say that in this patient the sounds which I heard at the inner supra-spinous region at my first examination were those of conducted tracheal respiration. I think so because on that occasion no rales were audible there; and an absolutely dry state of an apex cavity, in this climate and at this season, is extremely unlikely at the time when catarrh pervades the rest of the same lung. At my second examination cough elicited rales of smaller size than the cavernous, confirming the same negative conclusion.

THE AXILLA AS A SITE OF ELECTION IN THE EXAMINATION OF THE APEX.

In conclusion let me revert once more to the most important lesson which the present case has taught us. In one sense the upper axilla is a site of election in the examination of the apex. In the upper axilla, between the thorax and the stethoscope skin only and areolar tissue intervene. We are

here at a maximum distance from the trachea; and safe from the disturbing influence of any tracheal conduction, whether by bone or even by lung. Any cavernous sound heard here acquires additional significance from the absence of any bronchi of large size, such as we encounter nearer the sternum. Our diagnosis of the derivation of the sounds is, therefore, not qualified by any doubt. Any tubular breathing heard in the upper axilla means consolidation; any cavernous breath sound means excavation. Thus we can always make sure of ascertaining the condition of the outer aspect of the apex; but we may also find here more definitely than anywhere else information concerning the state of its central parts.

A CLINICAL LECTURE

ON

THE SUTURE OF NERVES AFTER INJURY.

BY

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GENTLEMEN,—That a divided nerve should be able in a few days to resume its functions seems to me without exception the most astonishing of all processes of repair. Composed, as a nerve is, of a huge multitude of fibrils, some of which carry messages only in one direction, others only in the other, each fibre identified at each of its termini with a particular station, and that only, how can it reunite without at least a gigantic temporary confusion? It is impossible to conceive that any vital process should be equal to the task of causing each divided end of a microscopic fibril to find out and attach itself to its proper fellow. And yet, if it be not so worked out, how can a motor filament move its muscle if it have become attached to a sensory fibre? or what good can a sensory message be which ultimately arrives at a motor centre? Or again, even though motor should be able to find motor, and sensory sensory, how should it be possible to avoid that, when the will sends down an intimation to move, the wrong actor should not be stimulated; or that, when a portion of the periphery sends up an intimation of excessive cold, or heat, or pain, the place of origin should not be misinterpreted. We are impaled on the horns of this

dilemma from which, as yet, we see no escape. Because the fact is that nerves may so heal that, in the course of two or three days, their functions are restored to them nearly perfect.

A little girl was brought to me at the Infirmary by Dr. Scott Lang, because she had cut her wrist transversely with a broken bottle four days before. He had not till then been able to persuade her people to submit her to what was necessary, and so had simply dressed it antiseptically. I found that the median nerve had been completely divided, and that its ends were separated by half an inch; its functions were entirely abrogated. I stitched the ends together, passing one stitch through the nerve tissue and two others through the sheath only. The divided tendons and the wound were then also sutured, and the hand placed in a dorsal splint in the position of flexion. The wound healed by first intention. I regret that daily observations were not at first made; but after three days, the bandages being removed, it was found that she could localize a touch with perfect correctness over the whole hand, but a little slowly in the median area. In little more than a week we were absolutely unable to detect any difference in sensitiveness between the injured and sound hand. We did not venture, on account of the tendons, to test the motor power thoroughly for some weeks; but we then found that every motion was possible to her, although for a time, no doubt from the restraint produced by the splint and wound, they were all somewhat awkward. I do not think the median motions were in this respect worse than others. No atrophy or other ill effect followed during the two months she was under observation.

This matter has been the subject of much dispute, and many surgeons and physiologists have been inclined to regard such cases as examples of what has been called supplementary sensation. It is undoubted that in cases of complete section of nerves—the median, for example—the sensibility of the parts supplied has been maintained, although no union has taken place. Such can only be accounted for by the fact that anastomoses between nerves, both of a gross and fine character, undoubtedly do occur more freely than is generally supposed. I put out of account, of course, errors of observation, as when too firm pressure arouses the muscular sense, or friction the sensibility of nerves at a distance, when, in short, the part is used as a probe. There are cases in which sensibility is truly maintained after section. But first,

this supplementary sensation is more or less imperfect even as to the sense of touch, and still more as to the sense of heat, or cold, or pain; and secondly, the motor functions always fail, and the muscles supplied atrophy. This explanation, therefore, fails in cases such as this, in which the function of a nerve is at once abrogated, in which it is restored in all its parts, and in which the injury is not followed by trophic lesions.

Such examples of nerve union are very rare, and in my own experience the case is unique. Of itself, however, it sufficed to prove to me the truth of my original proposition that a nerve may heal by first intention. One or two similar cases have been recorded by other surgeons, and, taken together, they are ample confirmation of the valuable experiments which Gluck has made upon animals. One or two interesting facts remain to be noted. The suture was not made till the fourth day (Saturday to Wednesday intervened), and it is unlikely that one so delayed will again be presented in an aseptic and therefore favourable state. The delay is interesting, because, as you know, the degeneration of the peripheral end of a divided nerve becomes appreciable about the fourth day, and has no doubt commenced yet sooner. It is at that date, therefore, still capable of immediate recovery.

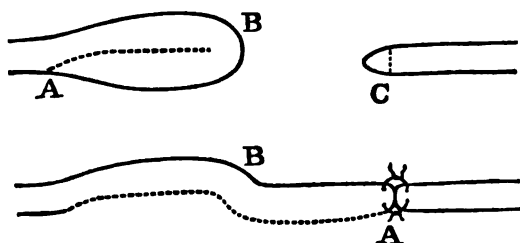
I regard this result also, as an additional proof, if such be needed, of the value of approximation of the divided ends of nerves, and the propriety of applying immediate sutures in every case of complete division. In the lower animals this has been absolutely established, both after section and resection, and is a drop in the ocean of valuable results, which we have obtained from vivisection. A sufficient number of clinical observations have now been made to justify the extension of this conclusion to man.

But it is not only immediately that suture is valuable. It may be applied in cases of nerve section, with good hope of success at almost any period after the injury. Within a short time after the injury, rapid degeneration of the peripheral portion of a divided nerve sets in. But it is now ascertained, both in animals and man, that pretty soon there begins a process of regeneration of a slower kind, which is probably not completed until many months after the injury, and this regeneration is entirely independent of reunion with the proximal extremity, although, very probably, it may be hastened thereby. There is reason to believe, no

doubt, that, both in the proximal and peripheral parts, following the law which applies to all the tissues of the body, disuse ends in atrophy, and that this atrophy may extend far, even to the central nervous system. But like all atrophy from disuse, it is very slow, and not an active or destructive process, and, at least, it is certain that the course of events is, rapid degeneration, slow regeneration, still slower atrophy.

This being so, there is encouragement for the surgeon to interfere, and practically admirable results have followed such interference. I have not, myself, had the opportunity of performing a very late operation, and the records of simply paring and sewing together within a year after the accident are so successful, that its propriety need not be enforced. I may be permitted, however, to record a case in which I practised a method recommended by Létiévant, which has not as yet, I think, been used by him or any other surgeon.

A young man, æt. 27, was sent to me from the island of Eigg, who, five months previously, had divided his posterior tibial nerve with an adze. We found the parts supplied completely paralysed, and distinct atrophy of the muscles concerned. I made an incision in the course of the nerve at right angles to the large transverse cicatrix left by the adze. The upper end was found to be bulbous, the lower atrophied, and they were separated from each other by rather more than an inch. It was impossible to approximate the ends without an amount of straining or dissection which I judged would endanger the vitality of the nerve. After paring the lower end, I incised the bulbous portion from above downwards, and turning the loosened half, sowed its upper raw end to the peripheral portion of the nerve.



The upper figures indicate the position before suture, the lower figure after suture. The dotted lines indicate the incision.

The wound healed by first intention, and before he left the Infirmary, three weeks afterwards, we were inclined to think that there was slight im-

provement of sensation. Of that, however, we could not assure ourselves; but I am informed by his master, Prof. Macpherson, that a year afterwards, both in his and the man's opinion, the one foot was in every respect as good as the other. Distinct improvement had made itself manifest about six months after the operation, and had steadily gone on to complete recovery.

There is good reason to believe, as the result of experiment, that any nerve fibre is capable of transmitting impressions in both directions, and of either a sensory or motor character. It is on this fact that such an operation is based. Moreover, there can be no doubt that in the process of healing nerve fibrils have a curious tendency to draw towards each other and differentiate themselves from surrounding texture. This no doubt is the case with all textures, bone, muscle, or tendon, but it is peculiarly striking in nerve. Even in the human being a nerve end finds out its fellow through a considerable distance.

I had occasion once to divide the mental nerve on account of a limited but very severe and intractable neuralgia. I drew the nerve from the mental foramen, and this with a portion dissected from the soft parts equalled an inch in length. The patient remained perfectly well for a year, and then returned with tic in the same part and in the infra orbital nerve. On again cutting down on the mental foramen, I found the ends united by a delicate thread emerging from the foramen, which microscopically was found to be composed chiefly of normal nerve fibres.

Again, in a case of amputation in the upper third of the leg, which had been performed elsewhere for injury, I was obliged to re-amputate on account of a broad and painful cicatrix, which was perpetually ulcerating. On dissection all the nerves of the stump were found to have formed a most intricate anastomosis with each other, and none of them terminated with the usual bulbous extremity. A portion of this "anastomosis" was adherent to the cicatrix, and this doubtless gave it its painful character.

I do not think that any observation has been made which would show the mode in which the nerve fibrils terminate in these so-called neuromata or bulbous endings in stumps. It has been ascertained that these bulbs are composed of true nervous, as well as connective tissue; and indeed their appearance and behaviour is sufficient to indicate that this is the case. For why should a

large bulbous end differentiate itself from the surroundings if not because of special and differentiated tissue growths. Why, moreover, should these bulbs, when buried in soft textures, give no trouble, while if they lie exposed to osseous or external pressure, they are so painful that the surgeon is obliged to remove them, as I have had to do on several occasions. I think, therefore, that it is extremely probable that if careful search were made it would be found that, in these bulbous ends, where certainly true outgrowth of nerve tissue has taken place, the individual nerve fibrils have anastomosed freely with each other. Indeed this case, it seems to me, amounts almost to a demonstration of this hypothesis. It is impossible to believe, if anastomosis had not already taken place in the bulb, that it would do so simply because some of its inverted fibres had become united to the peripheral end. It is much more probable that, the anastomosis having taken place formerly, looped fibrils were straightened out at the operation: and, seeing that a nerve fibril can carry currents in both directions, that function was thereby sufficiently restored.

We have then ample justification for suturing divided nerves at all dates after the injury, although experience would indicate that, as might be expected, the probability and completeness of success diminishes rapidly after the lapse of a year or two, and that not only in the motor, but also the sensory functions. Experience would also show that success in a large measure depends on perfect and kindly healing. The presence of suppuration almost negatives a useful issue, and tension is likely to be equally untoward. There is also reason to believe that the character of the nerve affected has a distinct influence on the result, that certain nerves unite more easily than others. I cannot but believe, however, that all may be successfully dealt with, and on one occasion I even carried this belief so far as to suture the spinal cord. It was completely unsuccessful, and there must be few cases of this nature which contain the elements of success. The operation was performed six weeks after fracture of the spinal column, a considerable longitudinal section of the cord, perhaps half an inch, had been destroyed, and since the tissue of the cord is so soft that it is impossible it can hold strained sutures, I could not be certain that more than the membranes were really approximated. Nevertheless I see no reason why there should not emerge a case in which the spinal cord may be successfully ligatured.

REMARKS

ON THE

USE OF AXIS-TRACTION FORCEPS IN FACE PRESENTATIONS,

With Notes of a Case.*

By ARTHUR H. N. LEWERS, M.D. Lond.,
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As a general rule in cases where the face presents labour progresses favourably, though more slowly than in cases where the vertex presents, and terminates without interference. Assistance may be required, however, if progress is arrested, either on account of uterine inertia, or owing to non-rotation forwards of the chin, which most probably depends, to some extent at least, on feebleness of the uterine contractions. The movement of rotation is especially apt to fail in those cases in which the chin was originally directed backwards, and therefore it is especially in these cases that interference is likely to be needed. Such cases are in quite a different category from the corresponding occipito-posterior cases, because under all ordinary conditions as to the size of the pelvis and that of the child's head, if the chin does not rotate forward, delivery of a live child is impossible, and the only resource is craniotomy. The foetus cannot, except when the pelvis is abnormally roomy, or the child unusually small, be extracted by the forceps with the chin still directed backwards. Whereas, in cases of persistent occipito-posterior presentation, extraction with the forceps is not generally a matter of much difficulty. I have observed three cases of face presentation in which the chin failed to rotate forwards; in all of them it seemed most probable that this non-rotation essentially depended on the absence of sufficiently strong pains. The causes that naturally are in operation to rotate the chin forwards only come into action when the face has descended sufficiently low into the pelvic cavity, and if the pains are feeble, the face remains high up, and rotation fails.

In the first two cases referred to, ordinary long forceps were applied; but were found to slip as soon as much traction was employed. They were re-applied twice in each case with the same result;

* Read before the Harveian Society of London, March 3rd, 1892. Published now for the first time.

and in these cases delivery was effected by turning. In the third case the ordinary long forceps were used and slipped off as in the other cases, though they were re-applied more than once. The axis-traction forceps were then applied, and intermittent traction used, with the result that, as the face was brought lower and lower in the pelvis, the chin rotated forwards. The forceps were then removed, and shortly afterwards the child was born naturally. No attempt was made to rotate the chin forwards with the forceps; only simple traction was made at short intervals.

Lusk alludes to the liability of the forceps to slip in cases where the face is transverse, owing to the wide separation of the blades, and is opposed to their use for traction with the face in that position. He advises in deep transverse presentations of the face that an attempt be made to rotate the chin forwards with the forceps. In mento-posterior positions, Lusk is opposed to repeated attempts to rotate with the forceps, and after alluding to the rare and exceptional cases of Smellie, Braxton Hicks, Braun, and Taylor, in which the face was extracted with the chin still pointing backwards, says, "usually, if delivery becomes necessary because of danger to the mother, craniotomy should be resorted to." But I cannot find any allusion to the use of the forceps as a simple tractor only with the distinct object of bringing the face lower and lower, and so within the sphere of action of those forces which tend to rotate the chin forwards. This seems to me to be an important point. Theoretically there seems no reason why the required lower position of the face should not be obtained by traction with the ordinary forceps. As a matter of fact they are, however, very liable to slip, and this for two reasons: first, in order to take a firm hold the forceps must be introduced deeply, so as to grasp the head above the level of the biparietal diameter; now, supposing the forehead to be directed forwards, a very slight displacement of the forceps backwards, such as can hardly be avoided when traction is being made in the usual way, brings a narrower segment of the head within the blades, with the result that they slip. Another reason why ordinary forceps is apt to slip is that the operator's hands are doing two things at once—pressing the handles together to keep hold of the head, and making traction. When axis-traction forceps is being used, this of course is not the case, the hands make traction only, and the hold of the

head is retained by fixing the screw on the handles.

In the case recorded by Dr. Braxton Hicks in the 7th volume of the "Obstetrical Society's Transactions," p. 64, where delivery of a live child was effected with the ordinary forceps, the chin throughout being directed backwards, he says, "the instrument frequently slipped, and was as often re-applied." Other observers have noticed the same tendency. By using axis-traction forceps this accident may be avoided.

The notes of my case, in which axis-traction forceps was used, are as follows:—For the particulars previous to the time I saw the case, I am indebted to Mr. Calthrop, who was Resident Accoucheur at the London Hospital at the time.

E. L., aged 36, who had had eight previous confinements at term, was taken in labour in the early morning of May 30th, 1891. She sent up to the London Hospital about 6 a.m. At 6.30 the membranes ruptured. The Resident Accoucheur saw her about 12.30. He found the brow was presenting in the first position, and that the os uteri was fully dilated. Chloroform was given, and an attempt made to convert the presentation into a vertex, but without success. It was, therefore, encouraged to become a face presentation. Progress was very slow, and the Resident Accoucheur endeavoured to rotate the chin forwards with the hand, but it was found impossible to do so. I saw the case shortly before 3 p.m., about nine hours after rupture of the membranes. The chin was directed towards the right, and backwards. The face was in the pelvic cavity, but not, as it seemed to me, sufficiently low to come within the sphere of action of the forces that normally produce rotation of the chin forwards. The ordinary long forceps was then applied, but, as soon as much traction was made, it slipped off. The instrument was again applied, with the same result. Simpson's axis-traction forceps was then applied, and intermittent traction employed, using but little force. The screw which fixes the handles was fastened up before each traction, and loosened in the intervals to avoid continuous pressure on the head. The face now descended, and as it did so the chin rotated forwards. As soon as this occurred the forceps was removed, and in the course of a few minutes the head was delivered by the natural powers.

The result here recorded was very striking. It was nearly nine hours since the membranes had ruptured, and no progress whatever was being made, and it had obviously become necessary that delivery should be effected without much further delay for the safety of the mother. Had it not been for the axis-traction forceps, it would have been necessary to deliver by craniotomy. As it was, the child was born alive, and when last heard of was doing well. The mother also made an uneventful recovery.

CLINICAL REMARKS

ON

A CASE OF GLAUCOMA.

Delivered in the Out-patient Department of St. Mary's Hospital,

By HENRY JULER, F.R.C.S.,

Ophthalmic Surgeon to St. Mary's Hospital.

GENTLEMEN,—We have here two very instructive cases which we can examine and, so far as one symptom goes, compare them together from a diagnostic point of view.

This case, an elderly man, is suffering from Chronic Glaucoma of the right eye. He lost the other one a few years ago from the same cause. On questioning him he complains of two conditions chiefly: firstly, a failure of sight, a diminution of the acuteness of vision; secondly, that when he looks at any artificial source of light, such as a gas lamp, it seems to him as though it were surrounded by a ring of colours like a rainbow. He states that when walking along the streets at night, the ring, when he is at any distance from the lamp, is as large as himself, but diminishes in size as he approaches the lamp.

On examining the eyeball in the usual way we find the tension markedly increased. The ophthalmoscope reveals the typical "cupping" of the optic nerve. He states that he can see all right "sideways," and that he does not stumble over objects when walking. I have put this last question to him, as one of the symptoms of Glaucoma is the diminution of the visual field in a characteristic manner, and if we allow this case to go on unrelieved we shall undoubtedly find his field of vision much limited. We shall estimate this in the proper manner by means of the perimeter, but before doing so I will show you a rough and ready way of ascertaining its presence in a case where one eye only is affected, the other being normal. Stand opposite your patient, and direct him to look at the tip of your nose, and keep his eyes fixed on this point; then, holding your hands out from your side at the level, and some distance laterally from his eyes, gradually move both hands in towards your nose, telling him to speak when he first catches sight of either one of them. A comparison of the distance between each hand and the corresponding side of the face, will serve to detect its presence where the symptom is a

marked one. In this case there is only one eye, and as the perimeter is at hand, we will use it to examine the field of his vision. We find that it is contracted upwards, inwards, and downwards to a moderate extent, very slightly indeed to the outer side of the eye. I do not give you figures now, as it is to the special region of the diminution I wish to call your attention. *The last portion of the visual field to suffer in Glaucoma is the outer portion, half way between the centre and periphery.* This is important to remember.

I will now examine the field of vision in this other patient, suffering from *Retinitis Pigmentosa*, as I want to show you how differently the field of vision is affected in the two. The contraction here is great and equal on all sides, upwards, downwards, inwards, and outwards. We have seen on previous occasions that there is also a diminution of the field of vision in cases of *Optic Atrophy* and *Toxic Amblyopia*, but in these cases there is also the question of special diminution to red and green. In the first, perception of these colours disappears from the periphery towards the centre of the field; in the last it disappears first at the centre, whilst the peripheral colour sense is good.

To return to our glaucomatous patient, then, he complains of progressive presbyopia and seeing rings round lights; we find increased tension of the eyeball, cupping of the optic nerve, and diminution of the field of vision, most marked in the upper, lower, and inner portions, slightly only in the outer portion.

To this aggregation of symptoms the name Glaucoma is applied, and all the symptoms can be traced to the increase of the normal intra-ocular tension to an abnormal amount. Consequently, the first thing we do in a case of suspected Glaucoma is to examine for increased tension.

One way of classifying cases of Glaucoma is to divide them into (1) Primary, including such cases as are due to general causes or to unknown causes; and (2) Secondary, including those due to disease of the eye itself. This latter class, however, is usually known by the name of the original disease, to which it is secondary, and when the term Glaucoma is used without any qualifying adjective it may be taken to mean Primary Glaucoma.

Glaucoma occurs in three clinical varieties—Chronic, Subacute, and Acute. For my own part I believe that almost all cases begin as chronic, though not always detected, and what we term subacute and acute are those which, chronic from

their commencement, have undergone more or less sudden inflammatory complications. It is easy to understand this if we have a definite picture in our minds as to the changes which take place in the eyeball as a cause of this disease. Putting it roughly and not minutely, what happens is this. There is first of all some disturbance of the intra-ocular lymph circulation by means of blockage of some part of its course; as a result of this there is a distension of the posterior chamber further increasing this obstruction. It is not, however, quite complete, and in the earlier stages not even permanent, as evidenced by the clinical history of the early stages, the symptoms disappearing from time to time, but recurring again. When the condition becomes permanent, then the symptoms remain so; and when the stoppage becomes complete, symptoms arise due to inflammation, and, according to the amount of their severity, the case would be classed as subacute or acute.

When we come to the causation of Primary Glaucoma, all that we can say is that there is some obstruction of the space between the junction periphery of the iris and the cornea—the iritic angle, the iris is pressed against the cornea, and thus there is interference with the circulation through the canal of Schlemm; this produces a distension of the posterior chamber, and the weakest parts suffer the most from this hyper-distension, the lens being pushed forward so as to further increase the existing obstruction. Priestley Smith considers that the increase in size of the lens which he has demonstrated to be present in the old, when associated with small eyes, is the cause of Primary Glaucoma, and I agree with him. Dr. Brailey considers the first distension as due to serous effusion, owing to inflammation of the ciliary body.

Whatever may be the cause of this increased fluid, we can explain how all the symptoms of Glaucoma are caused by it.

I believe the loss of accommodation can be traced to the fact that the crystalline lens is pushed forwards by the pent-up fluid in the posterior chamber, it carries with it the elastic suspensory ligament, which is thus put upon the stretch and so cannot respond to the action of the ciliary muscle by which accommodation is effected.

The halo round lights I regard as due to some trophic disturbance of the corneal epithelium, due to pressure on the nerve fibres passing to it. It is not at all uncommon to find complete anæsthesia of the cornea in Glaucoma as the result of such

pressure on nerves. I would compare this halo to the halo round a gas lamp, seen by any healthy eye when looked at through glass moist on the farthest side. All of you must have experienced that, and it is not unreasonable to imagine that a disturbance of the epithelium on the corneal surface produces a similar effect.

The cupping of the optic disc is merely the result of the backward pressure due to the hyper-distension, it is only found in cases of some weeks' duration. I might mention here that you ought never to mistake the partial or physiological cupping for the complete or pathological glaucomatous form. Occasionally you may detect pulsation of both veins and arteries in the disc. Pulsation of these arteries except when due to organic heart disease is a clinical sign of great gravity.

The pressure on the retina leads to atrophy of its substance and consequent diminution of the patient's field of vision. It is easy to understand that the periphery which is the furthest portion from the main blood supply suffers first. Remembering that the outer portion of the field of vision corresponds to the inner portion of the retina, the portion which is nearest to the main blood supply, it is easy to understand, remembering also how the cupping interferes with a proper blood supply to the retina, why the portion of the field of vision, which is just external to its centre, is the last to be affected in Glaucoma.

Seeing then that all the symptoms are due to the hyper-distension you will understand the extreme importance of recognising the disease in its earliest stage so that by means of treatment the interference with the intra-ocular lymph circulation may be at once remedied, so as to preserve the patient's sight. It is not difficult to diagnose such a case as this presenting all the symptoms of Glaucoma; neither would it be difficult to diagnose it with three such symptoms as rapidly increasing presbyopia, the seeing coloured rings round lights and the presence of increased tension; but whenever a man over 40 comes to you and complains of merely rapidly increasing presbyopia you should, suspecting Glaucoma, watch him carefully, examining him from time to time for increased tension and the other signs of Glaucoma, and do not forget that at first the symptoms may only come on now and then. We have, this morning, a patient, who frequently gets these premonitory symptoms, being attacked at his work with obscuration of vision, coloured rings, pain in the frontal and temporal regions,

so that he is obliged to relinquish his work for the day, and only gets relief after the installation of eserine drops into his palpebral sac:

Acute Glaucoma is, I have said, an acute condition supervening upon the chronic one. Where the chronic condition is known to have existed, there is not much difficulty in diagnosing Acute Glaucoma, but in cases where the chronic form has not been of sufficiently long duration, or of a type sufficiently well marked to attract attention, then difficulties may arise. Pain is a feature in Acute Glaucoma, but it is generally of a reflex rather than a direct form; the most common is in the form of a violent headache; vomiting may occur; there will be a certain amount of photophobia; great congestion of the conjunctiva, with perhaps *chemosis*, the iris will have a muddy appearance, and the media be obscured by inflammatory secretion. Such a case is easy to diagnose, with the previous history, and with the increased tension present. Now take another type, you are called to see a lady, over 40 years of age, she is a perfect stranger to you; you are ushered into a dark room, she is lying down there, and tells you that she has a very bad headache, that she has been vomiting, and that she cannot bear the light. Nothing is said to you to lead you to suspect that her eyes have been wrong. Such symptoms might be anything; an aperient is ordered, and a soothing mixture; the next day or the day after, symptoms are the same, you feel dissatisfied; the blinds are drawn up for you to get a proper look at her, but so far as she is concerned, they might have remained down, the room and the world are for ever dark to her. It is a case of Acute Glaucoma, undetected because of the patient's objection to the light necessary for you to investigate her case on your first visit. I do not say that such is a typical and common case, but it shows how necessary it is for us always to be on our guard:

The subacute form I need not go into, it is a class halfway between acute and chronic.

With regard to treatment, the only effectual manner of reducing abnormal increase of tension is by operative procedure. It is true that certain myotic drugs, as sulphate of eserine and pilocarpine when instilled into the palpebral sac, have the effect of reducing increased tension, and the use of eserine drops, gr.ij ad ʒj, is a most valuable aid to us in producing temporary relief in all cases, be they acute, subacute, or chronic. Unfortunately, however, their use can only be tolerated to a certain

limited extent by the conjunctiva, the use of eserine soon sets up conjunctivitis, and must be discontinued at frequent intervals, during which the tension again increases. Besides this, it appears to lose its effect after prolonged use. We may therefore use either eserine or pilocarpine, combined with cocaine, in any case where it is desirable to postpone operative measures; but, given a case of established Glaucoma, the sooner its tension is relieved by operation the better. The only efficient operation is a large upward iridectomy.

In acute cases the operation should be performed with as little delay as possible, for an eye in a state of Acute Glaucoma may be compared to a strangulated hernia, and, unless its tension is immediately relieved, the patient will become stone blind in the course of from twenty-four to forty-eight hours. As soon, therefore, as the case is recognised, all possible effort should be made to relieve tension and allay inflammation. Iridectomy should, if possible, be immediately performed, but, if its postponement for some hours is unavoidable, the drops of eserine and cocaine should be instilled every hour, leeches applied to the temple, hot fomentations used, and the *primæ viæ* cleared by suitable aperients. Should such a case be seen late in its course, say after two or three days' duration, it may be a question whether vision is not entirely lost in the affected eye or eyes, but so long as any perception of light is found to exist operation is always justifiable, and may be followed by excellent results, not only in the relief of pain but in the recovery of useful sight. In subacute cases the same lines of treatment are indicated, although the necessity for immediate operation is not so great.

In chronic cases there is less urgency for operation, eserine can be used for a time and the case carefully kept under observation. Here, again, the previous duration of tension and the state of the vision require to be carefully considered before the operation is decided upon. The less the contraction of the visual field and the slower the progress of the disease the more effectual the operation is likely to prove and *vice versa*. Indeed, where contraction of the visual field is so great as to have passed its centre, it is a question whether the case had not better be left to nature rather than interfere with it. After prolonged tension in an eye, the tissues appear to be universally weakened, and, therefore, to tolerate operation rather badly.

CLINICAL NOTES.

(Specially reported for The Clinical Journal. Revised in each case by the Author.)

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SOME CLINICAL REMARKS ON CASES IN THE CHILDREN'S WARD OF UNIVERSITY COLLEGE HOSPITAL BY DR. BARLOW.

Chorea.

This boy, aged 9 years, presents a fairly typical picture of chorea, first as to its clinical features, and second as to the history of its onset and progress.

Take the clinical features first. You will observe he is a bright intelligent boy, and so are most choreic children before the onset of their malady, and for a time during its progress; but at the end of it they often become weak-minded for a time. As to his nervous symptoms, they come under three heads:—(1) the irregular spasmodic movements; (2) the incoördination; (3) the paresis.

As to the irregular spasmodic movements though not rhythmical, you will note that there is a degree of alternation as to the parts affected, first one limb then the other, etc. At present, as he lies in bed, we see that the parts involved are the two upper limbs, the lower part of the face, the trunk and the lower limbs, and in that order as to the amount of movement observed. If you take the upper limbs and the face, you will see that Hughlings Jackson's rule is illustrated, viz., that the more intellectual parts are affected most, viz., the thumb and fingers more than the arm and shoulder, and the lower part of the face more than the upper part. The left upper limb is distinctly more affected than the right.

As to the incoördination, that is brought out when you tell the boy to perform certain acts, picking up a pin, for example. It is true the irregular spasmodic involuntary movements come into relief and interfere with the performance of voluntary acts; but over and above this, there is a faulty grouping of movements in any given purposive act. This is well shown in the boy's speech, in which, as you know, there is a grouping of many complex movements. You observe the overaction of the lips and the imperfect control of the tongue. The trouble is a faulty utterance; it is entirely an articulatory defect. We had a choreic girl in the ward some

time ago, who was speechless for some days, but there was no true aphasia; it seemed as though the child had given up the attempt to speak, but she understood perfectly well, and when her speech returned she spoke partly in a whisper, as choreic children often do.

You also see the faulty incoördination in this child's gait. His involuntary movements complicate his efforts, but he frequently crosses one leg in front of the other instead of carrying it straight ahead. You observe he gets along best when he goes at a good rate.

The third characteristic symptom is the paresis. That is important, because in the later stages in some cases the movements may become extremely slight, but the paresis may become very pronounced indeed. In this case the paresis is very noteworthy in the left forearm. There is a marked "dropped wrist," and he is unable to hold up the left arm vertically for more than a few seconds. You note that there is no evidence of failure of sensation. Loss of sensation is very rare. I have only seen it in a few cases of hemichorea.

As to circulatory symptoms, there is no evidence of enlargement of the heart. There is slight irregularity, accentuation of the pulmonary second sound, and there is a soft systolic murmur heard at the left cardiac base and as low as the fourth space, but not beyond the nipple. What that murmur is due to, we cannot positively say. In many such cases the murmur ultimately disappears, but that is not conclusive as to the absence of an organic change.

In some fatal cases, a murmur of this kind has been heard during life, and small vegetations have been found post-mortem on the mitral and other valves. Moreover, in other cases, murmurs of this kind have continued, and, by degrees, undoubted signs of mitral stenosis have developed. Thus, in the light of other cases, we have rather a bias in favour of this murmur being due to a mild form of endocarditis, but we are not able to prove it.

There are no rheumatic signs, at present, to be found in this boy; but since his admission, ten days ago, there has been a little mild pyrexia 99.8, 100, etc., which is not explained, and which will keep us on the *qui vive* for rheumatic manifestations.

What is the history of this boy's attack? We are told that he was quite well till November 6th, when his friends noticed that he twitched with his left hand and "pulled faces." His speech became bad, and the movements extended to the rest of

the body, the gait being last affected. The boy's symptoms were attributed by his friends to the excitement of letting off fireworks on the 5th November.

There is no history of previous rheumatism, but the boy has suffered a great deal from what are called *growing pains*. He, himself, gives a good account of these pains. They have waked him up at night, and made him scream. The parts affected have been the calves and thighs.

The family history is interesting. The parents have both suffered from rheumatic fever, and from chronic rheumatism. The mother had fits during her pregnancy with this child. One brother suffers from fits; some of the other brothers and sisters have been the calves and thighs.

The history is typical and instructive, as illustrating (1) the onset often after excitement—not necessarily fright; (2) the march of the affection—beginning in one hand and in the face, and gradually spreading; (3) in the previous history of the boy, which suggests a rheumatic predisposition, and in the family history which suggests a combination of rheumatic tendency, along with neurosis.

Empyema.

This boy, aged 11 months, suffered, two months ago, with a bad throat, attended with swellings in the neck, and much discharge from the nose. We were told that this was considered diphtheritic at the Children's Hospital, where he was admitted. He soon recovered from his sore throat, but shortly afterwards came under Mr. Pollard's care for otitis, and one tympanic membrane was incised.

About sixteen days ago, the child became very hot, and began to cough. He was admitted here twelve days ago, with a temperature of 104° , uttering frequent short cries, but breathing very quickly, and catching his breath between his cries, in a way suggestive of pneumonia. The upper two-thirds of his right lung were dull and resisting, with bronchial breathing, and bronchophonic cry resonance, and the rest of the side gave defective resonance with rather weak breath sound. The spleen was three fingers' breadth, and the liver four fingers' breadth, below the thoracic margin.

The temperature came down to 102° next day, and to 100.6° the day after that, but the child looked very ill. He was very white, took his food badly, and had a little diarrhoea. His symptoms seemed to point to a pneumonia of the upper part

of the right lung, with probably a deposit of lymph in the pleura over it, and possibly some fluid in the lower part of the chest, and it was considered best to explore. A large hypodermic needle was inserted near the angle of the right scapula, and some thin fluid was withdrawn, which seemed like slightly clouded serum. Under the microscope many pus cells were seen, and Mr. White afterwards demonstrated to us the presence of micrococci, diplococci, and a few small chains.

Now I have no doubt that a few years ago we should have been content to have aspirated this pleura and waited the result, aspirating again if need should arise. But you will recall that, I asked Mr. Godlee if he would be willing without delay to make a free opening into the chest, and this he did two days afterwards. You may ask why I urged this step. My reasons were these:—The character of the fluid was such that one could be certain that it would become more purulent in a very short time; and, moreover, the child's condition, with the history of a diphtheritic throat and its sequelæ, and the curious pallor which was very striking, suggested a septic element in its illness, and that an early free exit to the inflammatory products would give the best chance for its recovery. Another reason justifying this step became evident at the end of the operation two days afterwards. You will remember that a small piece of the ninth rib was removed, and that after the escape of about 7 oz. of fluid a small piece of lymph presented. It could not be detached, but to-day, five days after the operation, a large mass of shaggy coagulum has been withdrawn. Without a very free opening this material could not have been removed, and its liquefaction must have taken a considerable time. This, then, is an additional argument for the step which was suggested.

It is too early to forecast the probable course of this case, but the sister tells us the child has taken food better since the operation, and that he has been more comfortable.

Rheumatic Fever, with persistence of slight pyrexia after the subsidence of other symptoms.

This girl, aged 10, was admitted five weeks ago, on the third day of an attack which had all the characters of rheumatic fever. There had been severe pain, successively invading ankles, knees, hips, wrists, attended with obvious swelling of

ankles and feet, and some sweating. Her temperature, which was 103.6° on admission, rapidly subsided, and her pains passed away, whilst taking ten grain doses of salol every three hours. On the third day after admission the heart became a little irregular and the first sound ill-defined, and on the fifth day after admission an apex systolic murmur appeared.

The interesting fact about the case is this, that although at the end of the first week her lowest temperature at 7 p.m. was 97.6 and her highest temperature at 7 a.m. was 99.6 , since that period it has never remained normal throughout the day. For the last twenty days there has been a somewhat irregular course, of which this may be taken as an example: 7 a.m. 99.2 , 11 a.m. 100 , 3 p.m. 99.2 , 7 p.m. 98.4 .

There has been no joint manifestation, the soles and palms have been somewhat moist, but there has been no general sweating. The temperature, not having risen more than 100.4 , would not have caused solicitude; but that during the last fortnight the pulse has risen to $108-112$, $116-130$.

The apical murmur is still present, and there is now a loud murmur in the third left space.

The salicin compounds have not affected this condition, and she is now being treated with iron and full diet.

A pyrexia of more or less hectic type is sometimes found continuing for a couple of months or more after the subsidence of arthritis and other external rheumatic manifestations, but with the persistence of endocarditis. In the absence of other cause, it seems probable that the continuous endocarditis may account for the slight pyrexia present in this case.

In our patient the increasing frequency of the pulse lends additional support to this hypothesis. It seems possible that such examples may form a stepping-stone to the long-continued cases of malignant endocarditis in which there are many varieties so far as duration and severity are concerned.

Pneumonia followed by Effusion in both Knees and Pericarditis, (?) Rheumatic.

This boy, aged 7, was admitted on the third day of what was believed to be a straightforward case of pneumonia. There had been a rigor, heat of skin, dry harsh cough, quick breathing, pain in the side and in the limbs, and delirium at night.

When admitted on November 5th the signs pointed to the left lower lobe, but on the 7th the base had almost cleared, and the apex on the same side became much impaired, and gave intense tubular breathing and bronchophony, with a very few rales. Next day, *i.e.*, on the sixth day of the illness, an icebag was applied over the upper left front. This was kept applied till the morning of the eighth day, when the crisis occurred. He was perfectly comfortable with the icebag in contact, but its efficacy in lowering temperature was not very marked, for, at 11 p.m., the night before the crisis, 105.2° was registered.

The icebag was removed when, on the morning of the crisis, the temperature had come down to 100.4° . Within another hour it sank to normal, but there was no collapse. There was, however, very copious sweating.

On the ninth day the apical signs had almost disappeared, with the exception of slight bronchial breathing and slight impairment.

The heart sounds were natural, but on this day the boy complained of pain in his right thigh. There was no phlebitis, but some effusion was found in the right knee joint.

On the tenth day the pain was less, and the effusion in the right knee was less, but there was evidence of some fluid in the left knee. *There was still considerable sweating.* No fresh joints became affected.

On the fourteenth day there was still a little fluid present in both knees, and a little pericardial friction was heard.

The effusion has now disappeared, but has left a little thickening of the margins of the condyles of the femora. The pericardial friction has lessened, and there is no evidence of any permanent damage to the heart thus far. You will observe that since the crisis there has been a temperature oscillating in the day between 97.6° and 99.8° , but once reaching 100° .

How are we to read this case? It is clear that we have had an apex pneumonia followed immediately by a subacute rheumatic attack. The question arises whether the initial pneumonia was part and parcel of the rheumatism or an independent ailment. You will recall that in the course of severe attacks of rheumatic fever in young adults it is not very rare to get pneumonia as one incident of the illness.

But there are many illustrations to be given of the bouleversement of symptoms in the rheumatism

of childhood so far as the order of appearance and relative severity are concerned. The nearest parallel to this case which I can recall is that of a little girl brought into hospital with serous pleurisy, and during her convalescence getting effusion in her knees apart from any strain or injury.

With respect to the present case it is only fair to consider the view which some might be inclined to take, viz., that the use of the icebag precipitated the rheumatism. I do not think that is probable, because no shock was obvious; there was no chill, and the icebag was removed when the temperature had sunk to 100.4°.

THERAPEUTICAL NOTES.

Salipyrine in Influenza:

Mosenzell regards Salipyrine as a specific against influenza. He used it with success in a great number of cases, especially when the temperature was not very high. He prescribed it usually in doses of 15 grains, occasionally giving as much as 30 grains and more, rarely in doses of 7½ grains; the dose being in proportion to the severity of the symptoms. In many cases there was improvement after the first dose.—(*Nouv. Rem.*)

Gogrewé has also used Salipyrine largely for influenza, and speaks favourably of it in all cases except those where the prominent symptoms are those of gastro-enteritis, or those complicated by broncho-pneumonia.—(*Deutsche Med. Zeitung.*)

Bromide of Ethyl as a substitute for Chloroform during Labour:

Bromide of Ethyl has been used by Montgomery in about 500 confinements with every success. There have been no bad results from its administration, though a few suffered from nausea or vomiting. The only inconvenience is the disagreeable taste which persists for some days after its administration. This, however, Dr. Montgomery considers is more than counterbalanced by its action at the time; thus, though it diminishes the sensation of pain, it does not produce loss of consciousness to any extent, and the patient can perform the voluntary efforts so necessary at this time. He did not meet with uterine inertia or post partum hæmorrhage.—(*Therapeut. Gazette.*)

FORMULÆ.

For Dipsomania. (*N. Y. Med. Journal*):

- R. Tinct. Capsici... .. ℥x
Sod. Bromid. gr.x
Spt. Ammon. Aromat.... ʒj
M. To be taken in a little water three times a day.

For Erysipelas. (*Rev. Gen. de Clin. et de Thér*):

- R. Tannin ... } aa 1 part
Camphor ... }
Ether 8 parts
M. To be applied with a brush every two hours.

For Eczema of the Vulva. (*L'Union Medicale*):

- R. Potassii Bicarb. ... ʒj
Sodii Bicarb. ... ʒij
Glycerini ... ʒiiss
Tinct. Opii ... ʒij
Aquæ Destillat. ... ʒviij
M. Warm, and apply morning and night; then dust the parts with the following:
R. Camphor (Pulv.) ... 1 part
Amyli (Pulv.) ... 49 parts
Ft. pulv.

For Frost-bite. (*Med. Progress*):

- R. Ol. Lavandulæ ... } aa ʒss
Acid. Carbolicæ ... }
Ol. Olivæ ... ʒv
Ung. Plumbi ... } aa ʒx
Lanolini ... }
M. Ft. unguent. To be applied to the affected part.

Chloral in the Treatment of Boils. (*Nouv. Rem.*):

- R. Chloral ... ʒj
Glycerini ... } aa ʒij
Aq. Destillat ... }
M. Ft. pigment. To be painted on the boil.

To deodorise Iodoform. (*Pharm. Zeitung*):

- R. Iodoformi ... 97 parts
Acid. Carbolicæ ... 1 part
Essent. Menth. Pip. ... 2 parts

THE CLINICAL JOURNAL.

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A CLINICAL LECTURE ON SOME POINTS CONCERNING DIPHTHERIA IN CHILDREN.

Delivered at Charing Cross Hospital, Dec. 10th, 1892,
BY

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GENTLEMEN,—I propose lecturing to-day on some points concerning Diphtheria as it occurs in children. I have taken Diphtheria as my subject because, although it is not so common as measles or even scarlet fever, and though it does not leave behind the sequelæ found after these two diseases, such as glandular affections, chronic bronchitis, empyema, etc., yet, in proportion to the numbers attacked, it probably kills during its acute stage more children than do these two diseases put together. It also kills in several ways both at its height and during apparent convalescence. I have limited myself to the discussion of its occurrence in children, not that there is any special difference between its manifestations in children and adults, but because it is much more often met with in children, and my clinical experience of it has been mainly derived from that source. The subject is of great importance, and it is therefore essential that you should be fully alive to the various dangers which may arise at different stages of the disease.

The onset of this disease is preceded or accompanied by headache, with or without vomiting, malaise, perhaps some rise of temperature, stiff neck, and sore throat with pain on swallowing. I might mention that this last symptom is by no means so severe as in the case of scarlet fever. After a varying interval, the fauces are found to be reddened, either uniformly or in patches. This redness is not so bright and vivid as in scarlet fever. It has been said that redness of the fauces occurring in patches is only found in Diphtheria or owns a traumatic cause, *e.g.*, a scald. Whitish or yellowish grey spots appear on the tonsils, base of uvula, and fauces, these increase in size, and run together, finally coalescing to form a uniform layer, the false membrane thus formed in some cases covering the whole of the fauces and uvula; often the

uvula is enveloped by a sheath of membrane fitting it, taking its shape as a glove does that of the tip of a finger. This membrane is adherent throughout, but more so at the later than in the earlier stage. As the patches increase in size so as to coalesce, they increase in thickness, thus becoming more adherent. They are always more adherent over the tonsils than elsewhere, owing to the nature of the subjacent surface. If the membrane is removed, a raw surface will be left, which will again soon be covered by this false membrane. If cast off naturally, as it will be if the patient lives long enough, the under surface will be found to be smooth, but even then the membrane may recur. As the throat affection develops, the glands in the neck become affected, the first to enlarge is one situated at the bifurcation of the carotid, but the others soon become affected, and the brawny swelling formed thus, and by the infiltration of the periglandular tissue, is sometimes so excessive as to alter the appearance of the child beyond recognition. The swelling of the first-mentioned isolated gland, though important, is not peculiar to this disease, as it is almost always enlarged in children suffering from any chronic tonsillar or naso-pharyngeal affection. There frequently is discharge from the nose, and sometimes epistaxis. The face by this time will be pale; the breathing laboured and noisy, owing either to enlargement of the tonsils, blocking of the nostrils, or both. The pulse is, as a rule, frequent; albuminuria may be present; and in severe cases a well-marked odour will be noticed. This is difficult to describe, it is sweetish but disagreeable, and when you have once become familiar with it you will have no difficulty in recognising it on subsequent occasions. It is due to changes taking place in the false membrane. The case may terminate by death from laryngeal troubles, malignancy, heart failure, pneumonia, or paralysis; or recovery may take place with or without paralysis.

This is a brief outline of the ordinary symptoms of Diphtheria. I propose now to discuss some of the important symptoms a little more in detail.

Mode of onset. As a rule it is insidious, and we cannot ascertain exactly when the disease began; but occasionally the onset is very sudden, as the following case will show.

A child, *et.* 5 years 2 months, was brought at mid-day; he had gone to bed apparently quite well overnight, but in the morning he seemed dull; one hour before he was brought he complained of his throat. When I examined him both tonsils were swollen, and there was some thin exudation on one of them; presumably the membrane had formed within one hour of the throat being involved.

2. *Temperature.* Fever is by no means an essential feature of this disease; simple and even malignant cases may run their course almost without rise of temperature. Its significance varies; thus a temperature of 103° or 104° in the early stage does not betoken any special danger, but in the later stage it is suggestive of some complication such as pneumonia. A very high temperature such as 106° is, on the other hand, always a bad omen.

3. *Nasal discharge.* This at first thin, soon becomes turbid. It is strongly irritant, and produces excoriation of the borders of the nostrils. Occasionally casts of the nasal cavities are expelled, but not frequently. It is a symptom of considerable importance, and when it is associated with enlargement and tenderness of the glands in the neck a diagnosis of Diphtheria is often justified, even though no membrane can be seen on the fauces. Some authors lay great stress on the nasal discharge as a sign of malignancy and of unfavourable omen, but this is by no means the fact; it is true that it is usually present in malignant cases, but I have seen many cases where it was present, and yet recovery took place. Indeed I would go so far as to say that in some degree or other it is present in the majority of cases. It may be the result of the disease spreading from the pharynx or larynx, or it may occur as a primary diphtheritic affection of the nose. As an illustration I quote the following case:—

A baby admitted into Hospital for congenital syphilis developed, during an epidemic of Diphtheria in the ward, nasal discharge, and after a time portions of false membrane were brought away by syringing the nasal cavities. No membrane was ever seen in the throat; subsequently laryngeal symptoms appeared, and after death false membranes were found in the larynx, trachea, and nasal cavities.

In this case we had distinctly the nose affection for at least one week before that of the larynx. It may possibly be that as the child was the subject of congenital syphilis the mucous membrane of the nose offered the most favourable site for the disease.

Epistaxis. I believe that the importance of this symptom is not sufficiently recognised. I have found it to be present in a considerable

number of cases. One need not be surprised at that; the nasal mucous membrane is always more or less ready to bleed; this tendency must be considerably increased by the tumefaction consequent on the disease. It is occasionally a cause of death, as these two cases will show.

Case 1.—A girl, *et.* 3 years 5 months, admitted on the third day of disease with membrane on both tonsils. On the fifth day there was profuse discharge from nostrils, and the day following epistaxis set in, which continued till her death, about twenty-four hours later.

Case 2.—A boy, from 3 to 4 years of age, was brought moribund to the Hospital, and died five minutes after admission. His mother stated that eight days previously he complained of headache; this was followed by epistaxis, which was stopped with great difficulty. The day before his death he had a "fit," followed by epistaxis, which continued in spite of all treatment. He was brought to the Hospital *in articulo mortis*, as above stated, and died before anything could be done. I made a post-mortem examination, and found the nasal cavities filled with false membrane. There was, prior to this discovery, absolutely no suspicion as to the presence of Diphtheria.

The disease may spread (1) through the lachrymal duct to the conjunctiva, resulting in the formation of a false membrane there. (It is a different condition, however, to that known as membranous conjunctivitis, and has no connection with it; the latter being a local disease without any general symptoms, it is a chronic disease with recurrent formation of membranous pellicles.) (2) It may spread along the Eustachian tube, causing otitis and perforation. I cannot say that the membrane always spreads along the tube; it may cause a catarrh merely, but I have seen cases of otitis and perforation occurring as a complication. (3) It may spread to the oesophagus, a rare complication, or to the stomach, a still more rare complication. I should say here that the vomiting which sometimes occurs in an almost uncontrollable form, and which is a sign of grave import, does not depend on any extension of the disease to the stomach. It was long ago pointed out by Sir William Jenner that continued vomiting in Diphtheria was a bad omen. (4) It may spread along the hard palate, or along the cheeks to the gums, lips, and to the corners of the mouth. This is accompanied by an excessive flow of saliva which produces considerable excoriation. My experience of this condition is decidedly unfavourable, and without looking on it as a symptom indicative of a probably fatal termination, I should regard it as one of grave import and give a very guarded prognosis in those cases where it occurred.

Cutaneous Diphtheria, without any lesion in the larynx, pharynx, nose, or elsewhere, does un-

doubtedly occur. Well authenticated cases are on record in which paralysis has followed this variety. My experience is limited to the following case:

A young infant was brought to me with a sore in its groin, covered with what appeared to be false membrane; it had been suffering for some time from intertrigo, and the mother told me that another of her children had recently died from Diphtheria. A few days later the child died, no affection of the fauces having been recognised.

A practical application of this would be to avoid the use of leeches or blisters, in a case of Diphtheria.

The peculiar odour to which I have already alluded, is due to decomposition of the false membranes, and is consequently not a very early symptom. Though, undoubtedly, a grave symptom, it does not necessarily imply a fatal termination. I have notes of two cases, in which it was a very marked feature, and was accompanied by albuminuria, where complete recovery took place.

In truly malignant cases death may occur with alarming rapidity, as in the following instance:—

Case 1.—Girl, 4 years 8 months, complained of sore throat one evening; the temperature rose rapidly to 103°; the next morning, twelve hours only after the first complaint of sore throat, it was found, on examination, that the whole extent of the fauces was obscured by discoloured membrane, hanging in shreds; the typical odour was present; the glands in the neck were immensely swollen, and there was urgent laryngeal dyspnoea. Tracheotomy was performed at once, but she died thirty hours later.

The following case was equally malignant, though it did not prove quite so speedily fatal:—

Case 2.—Boy, æt. 11 years; five days before admission he had vomiting, followed by headache, sore throat, fever, swelling of neck; there was profuse nasal discharge; very large and thick membrane, covering the whole of the fauces; intense smell; delirium, which is rare; diarrhoea, also an uncommon and unfavourable symptom; death on ninth day.

Removal of membrane. It is inadvisable, as a rule, to use any force in removing the membrane; but shreddy or loose portions should be removed, lest, when they separate spontaneously, they fall into the larynx.

Death may occur from asthenia, without any special circumstance; thus, a boy, æt. 3 years 4 months, died on the twelfth day, from asthenia; the membrane had spread along the cheeks to the lips; albuminuria, vomiting, diarrhoea, were all present, and yet recovery never seemed hopeless.

Death from heart failure occurs in two ways (1) suddenly, and (2) gradually. The first form may occur at any time, usually, however, it occurs at the commencement of convalescence. There is

nothing to guide us as regards the anticipation of this, and the lesson we learn is that our prognosis must be doubtful, even after all apparent danger is over. It is necessary, therefore, to take extreme care of the patient, until convalescence is well established.

One case of sudden death has been brought under my notice. A child, apparently progressing favourably, after the subsidence of all urgent symptoms, was lifted out of her bed, and placed in a sitting posture on another, whilst hers was being made by the nurse, and died suddenly. You will find a somewhat similar case in Fagge's book on medicine.

The second form is illustrated by the following case:—

A girl, æt. 4 years 1 month; on third day the membrane was extensive, and there was albuminuria, some elevation of temperature and frequent pulse; she got worse, the urine becoming solid with albumin; the pulse gradually fell, and became weaker, until six days later, when she died, it was only 66 per minute.

This is a very low rate for a child of her age, especially when suffering from fever, and it would probably have been much lower but for the free administration of brandy.

Albuminuria. My experience is that this is not present in a majority of the cases. It is a grave symptom, and about 50 per cent. of those affected with it die. It usually comes on early. I have never seen any anasarca or uræmia associated with it, and though epithelial and blood casts are found, the urine never presents a smoky appearance. A large amount of albumen in the urine should always involve a proportionately grave prognosis.

Laryngeal cases. I have left to the last the most formidable group of cases, viz., those in which the larynx is involved. I need not attempt to give you a description of these cases, as you can read for yourselves most graphic accounts in the text-books. They form something like 50 per cent. of all the cases.

Some years ago, there was much dispute as to whether all cases of membranous laryngitis were cases of Diphtheria; it is now, however, generally accepted that for all practical purposes, with some trifling exceptions, membranous laryngitis is always to be regarded as the result of Diphtheria. That the disease may commence in the larynx is absolutely certain, and is well shown in the following cases:—

Case 1.—A. E., æt. 6 years, admitted on the fourth day; her illness began with cough, sore throat and pain on swallowing; she was becoming voiceless and cyanosed, her tonsils were swollen, but no membrane could be seen. Tracheotomy was performed at once, and a considerable amount of membrane removed. Two days after operation, membrane appeared on the tonsils. From the appearance

of her tonsils when first seen, I have no doubt that up to that time there had been no membrane upon them.

Case 2.—Boy, *æt.* 2½ years; ill one day, cough, difficulty of breathing, pain on swallowing; there was extreme dyspnoea, clangy cough, and a speck of membrane on right tonsil; tracheotomy was performed. Next day the tonsils were swollen and covered by false membrane, as was also the uvula.

Case 3.—A rickety baby was brought, suffering from urgent dyspnoea, and presenting the typical features of croup. The mother said that it was often so, and had been worse. There was nothing to be seen in the fauces, and there was no swelling of the glands of the neck; the case was regarded as one of laryngitis and not Diphtheria, the dyspnoea increased and tracheotomy became necessary. When the operation was done, though the larynx and trachea were fully "feathered," no membrane was got up. After death, a thick membrane was found extending from the larynx down the trachea into the first bifurcations of the bronchi. The nasal cavities also contained some membrane.

Case 4.—Child, *æt.* 4; coughed up membranous casts of the trachea; nothing was found in fauces; tracheotomy performed. At the post-mortem, membrane was found in the nose.

We must therefore assume that there are two kinds of membrane, or else that these were all cases of Diphtheria. The younger the child attacked with Diphtheria, the more likely he is to have laryngeal affection; a purely pharyngeal Diphtheria in a child under two years old must be very rare, and the younger the child with laryngeal affection, the more grave the prognosis. The larynx is usually attacked early, so that after the first week, if it were still free, we should have little to fear from this quarter.

Finally, you must remember that laryngeal symptoms may occur during the course of Diphtheria without there being any membrane in the larynx. They may be due to swelling of the membrane from catarrh, and may subside under appropriate treatment, *e.g.*, the application of an ice-bag.

A CLINICAL LECTURE

ON

SOME POINTS IN THE DIAGNOSIS OF CANCER OF THE BREAST.

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GENTLEMEN,—I have, for many years, been interested in the subject of mammary cancer. It has fallen to my lot to have seen a great deal of this disease, and in many instances the patients have been sent to me, for the very reason that their cases have presented features of especial doubt and

difficulty. While a well marked case of cancer of the breast can be made out by the youngest tyro, there are certain which present the greatest difficulties, even to one who has seen much of them. I have made my due quota of mistakes; I would desire that you, as well as myself, should profit by them. I, and those who commenced the study of medicine along with me, grew up with certain delusions about cancer of the breast, partly the result of text-book statements not properly explained, and partly the result of popular tradition. These delusions contain a certain amount of the truth, but they do not contain the *whole* truth, and, therefore, they must not be accepted as nothing but the truth.

And, first, with regard to the *value of pain as a diagnostic symptom*. There is no more wide-spread belief than that cancer is accompanied by pain. To the public mind, the words "cancer," and "pain" are synonymous. The mere mention of the term cancer brings up such visions of agony and hopeless misery, that no wise surgeon will pronounce the word before a patient, if he can help it. Thus it has come about that the public mind, believing that cancer is always accompanied by pain, argues that, *per contra*, where there is no pain there is no cancer. Rarely does one see a person with mammary scirrhus, to whom this question is not addressed, "Knowing that you had a lump in your breast, why did you not long ere this apply for advice and assistance?" And the invariable answer is "I didn't think anything about it, because I had no pain." While it is an undeniable fact, that cancer in its latest stages, is almost always a terribly painful disease, it would seem to be a matter of the utmost difficulty to din into the minds, even of medical men, the fact that the early stages of the disease are invariably painless; nay more, that there are not a few cases where it is only near the very termination of life that severe pain occurs at all. Speaking without data, but merely from general recollection, I should say that in the majority of cases a period of from twelve months to two years elapses between the commencement of the disease and the time when it is found out, before pain of any moment is experienced. What then first attracts the attention of the patient to her disease? In many cases, no doubt, some little uneasiness, or occasional sharp twinge gives the first warning, but just as frequently the malady is discovered by accident. Men do not, as a rule, wash their breasts very much, but women do; and in a very large proportion of instances the patient first finds out that she has a lump in her breast, as she passes her hand over the gland while washing. The mere absence of pain, therefore, is no indication that the disease is not cancerous. Indeed, I would go further, and say that, if a patient comes to you with a lump in her breast of comparatively

recent origin, and complains of considerable pain in it, that very fact would militate against the idea of the disease being cancerous.

A *cachectic appearance* of the patient has long been regarded as a sign of malignant disease. Often, after examining a patient with some medical friend, I have been struck with his remarking, "Well, but look at her ruddy colour and healthy aspect! There is no cancerous cachexia there!" Like pain, we have here again an old superstition, a deeply-rooted popular belief, to the effect that a person who has cancer must necessarily have a pallid, emaciated, haggard appearance. When foetid discharge, and agonizing pain, and sleepless nights, and mental distress, have all done their work, then it is true that the unfortunate patient does present the external aspect of a cachexia, but certainly not at the beginning of her disease. In fact, the general appearance of the patient is but a poor guide to the presence of malignant disease, or even to the amount of it. I am decidedly disposed to assert that the bulk of persons who present themselves to a surgeon in the early stages of cancer, are thoroughly healthy individuals to look at. I have often told students that, if, in passing through a crowded surgical waiting room, they see a fine, hale, ruddy old fellow, looking as if he came from the country, with a big muffler up to his nose, and some cotton wadding in his ears, they might, at a venture, put him down as having cancer about the mouth. My recollection is, that the great majority of women, whose breasts I have removed, have been women well nourished, and of a distinctly wholesome appearance. Cancer does not attack by preference the lean, cadaverous individual, who suffers from chronic ill-health. Mostly, it assails the well-fed, succulent, healthy-looking person, who boasts that he has never had a day's sickness in his life.

Cancer, without a doubt, is increasing rapidly in this country. Can it be because we are so much better fed? I have an ill-defined idea that our enormous beef-eating and beer-drinking propensities have something to do with it: and yet, on the other hand, I am told that among purely vegetarian Indian tribes, the disease is quite common.

What is the *diagnostic value of retraction of the nipple*? I think that the majority of text-books have, hitherto, somewhat misled the student on this point. It has been given out too broadly, that retraction of the nipple is a sign of scirrhus, while the statement has not been sufficiently qualified, by clearly indicating to the tyro that the sign is only of the least value, when the disease happens to be situated immediately beneath the nipple. If the tumour has its site at any distance from the centre, then retraction naturally does not occur. To persons thoroughly conversant with this matter, it seems strange that it should be necessary

to point out to any one that the central point of the mamma can only be interfered with by disease that underlies that central point. As an actual fact, however, I know that the mere presence or absence of nipple retraction, without reference at all to the position of the cancerous mass, is too often appealed to by young practitioners. Not that I think them so much to blame as their text-books, which do not fully warn them against falling into the error. But, if the absence of nipple retraction is no diagnostic sign, in cases where the disease is situated away from the centre of the gland, on the other hand it is practically pathognomonic when the disease lies beneath it. In a certain number of instances, the first cancerous deposit occurs deeply down in the very middle of the mamma, and in its early condition, when there is only a slight amount of disease present, it is indeed most difficult to make a diagnosis by touch alone. Here, at its centre, the gland is thickest, and consequently offers most difficulty for purposes of examination. We are not presented with a hard, tolerably well defined lump, but with a confused and indefinable sense of thickening somewhere deep down. But, however small the amount of disease, and however deeply it may be seated, if only it lies beneath the central point of the gland, then to a certainty the nipple will be pulled down.

The *question of heredity* is one that has always played an important part in the diagnosis of mammary cancer. I think, however, that surgeons in the present day do not attach to it the importance which those of the last generation did, and personally I am of their way of thinking. In the first place, I do not think that the old statistics as to heredity were very good. Moreover, when, as occasionally happened, many members of one family were destroyed by the disease, this produced a profound sensation, and such instances were quoted over and over again. In a considerable family of persons who have attained middle life, there is almost certain to be some aunt or cousin who is found to have died of cancer. In the same way heart disease, consumption, rheumatism, or gout may be traced by each one of us in his own family, if only we set to work to investigate the pathology of our genealogical tree. The histories of my own cases show no very notable amount of heredity to have been proven. I admit that many of these histories are imperfect in the case of hospital patients, because that class of persons take very little notice what their relatives died from. They have no spare time to speculate on the nature of the illnesses of their kinsfolk, as richer people have. But even admitting this, had the question of heredity played as important a part as many used to hold, I think I would in the course of my experience have become more impressed with it than I am.

Undoubtedly the fact of a noted amount of

cancer having occurred among a patient's circle of near relatives, or the fact of a mother or father having died from the disease, would greatly increase my suspicions, while trying to make up my mind in a doubtful case. But, on the other hand, the absence of any discovery of hereditary taint would not have any particular effect in inducing me to lean to the side of innocence. Yet the public think very differently. It is one of the things which prevents their coming for help early. Times without number have I heard a patient say, "I never dreamed that my trouble could be cancer. I never had any pain, and nobody in our family was ever known to die of cancer." It may then be briefly said that, while proved and notable heredity is an argument in favour of a tumour being cancerous, the absence thereof is no particular proof that it is innocent.

What are the *conditions which most closely simulate scirrhus*? Perhaps the best way to describe these will be to tell you where I have made my own mistakes. I can recall three instances where I have been wrong in making a diagnosis between scirrhus and induration, resulting from a chronic mastitis. Curiously enough, the three patients were all married women between thirty-five and forty years of age, comparatively spare in form, and childless. By the way, I rather think that type of woman is more prone to chronic mammary induration than the stout plethoric woman who has had a big family. When the condition becomes pronounced, the whole breast comes to resemble a hard flat cake. You can lift it off the pectoral muscle in a mass. Here and there throughout it are points of extra hardness, like knobs or bosses. One of these, bigger than its fellows, is the suspicious object. The question comes to be, is that hard knob simply a bit of extra hard chronically indurated tissue or is it a piece of malignant disease? In point of mere hardness there is nothing to choose between either condition. Mere feeling gives very little help, while the difficulty is increased by the fact that throughout the rest of the breast are points which are only a little less in size, and a shade less hard, than the one which has given rise to suspicion. But if one recognises the fact that chronic mastitis can and does constantly under certain conditions pass into cancer, we get some help. I was taught quite the opposite doctrine when I was a student. I was taught that an inflammatory mass was one thing, and that a cancerous mass was another; and that a cancer was a cancer from the very beginning, and could not arise out of any inflammatory condition. As regards the breast, at any rate, this is absolutely untrue. In the three cases I have mentioned to you, treatment was adopted for some time with the view of "dispersing" the chronic induration. Small doses of iodide of potassium were given internally. The

breast was bathed with very hot water morning and evening, and then gently rubbed with a ten per cent. oleate of mercury. The stays were removed, and the body encircled with four or five turns of elastic webbing bandage, which at once supported the breast and compressed it against the chest wall. The arm on the affected side was carried in a sling. In all the cases this treatment seemed at first as if going to be successful, and so it was up to a certain point. The bulk of the gland became softer, but the hard nodule did not. When the breasts were ultimately removed, in two out of the three, not one but several isolated points of carcinoma were found palpably developing out of excessively indurated nodules of inflamed tissue.

I cannot give you any precise rules to guide you in such very difficult cases. Experience alone helps. If the doubt is great, the best thing to do is to represent to the patient the dangerous condition in which she is, and recommend that the suspected part be removed, having permission to remove the whole gland if this suspected part is found on removal to be malignant. I did this a short time ago at the Royal Infirmary, in the case of a woman who had intense chronic mastitis of both breasts. In one of them was a very hard and treacherous point. I cut down upon this, removed it, and found it to be non-malignant. So much the better; but still the woman was pressed to come from time to time to show herself. You say that this proceeding depends upon the estimate of the growth formed by a rapid naked-eye inspection of a section of the piece of gland removed, and not upon a careful microscopic examination thereof? I admit that it does. I do not for a moment wish to under-rate or sneer at the value of microscopic examination, but the microscopic appearance of a piece of chronically inflamed gland tissue and those of a piece of cancerously infiltrated gland tissue are so very much alike, that I will back the judgment of any surgeon of long experience upon a naked-eye inspection of a fresh section against any microscopic slide.

Probably the thing which is next most commonly mistaken for cancer is a small deep collection of pus, surrounded by a zone of inflammatory thickening. Many years ago I saw a surgeon of the cocksure class whip out a breast for supposed scirrhus. When the breast was cut up in the lavatory before being handed round, the tumour was found to be a small abscess with a thickened mass of inflamed tissue around it. It need hardly be said that a great silence fell upon the whole company. At the first blush one would think this mistake a very unlikely one to happen, but it is not so. The deep-seated, ill-defined, hard inflammatory mass, surrounding so small a quantity of pus that fluctuation cannot be detected, has a marvellous resemblance to a piece of carcinomatous tissue.

Again, a condition very like the hard point in a case of chronic induration is produced by a small fibro-adenoma. I recollect a very nervous woman coming into the Infirmary with what I believed to be a tumour of this kind. She was extremely timid, and only after considerable persuasion consented to have the growth out, and that on the express understanding that nothing more was to be done. But when we came to the growth it was found to be a bit of scirrhus, although the signs of a fibro-adenoma had been so marked that I had been at some pains to point them out to the students as very characteristic of that form of tumour. I removed it freely. The patient was told what had been found, and was begged to return and show herself. This, however, she never did, being a most foolish and nervous creature, until she came back again with the whole breast a hopeless mass of cancer. In point of hardness, a small fibro-adenoma scarcely differs from a scirrhus; but the great diagnostic points are that it has a fairly definite outline, is always movable, and never tucks in the skin, even although it be lying just beneath it. Moreover, it is often found at a period anterior to the ordinary malignant age.

Another extremely deceptive condition is the presence of a very tightly distended cyst. I learnt this first from seeing a surgeon of great experience proceed to cut out a breast for cancer. He gave his reasons for thinking that the tumour was malignant, but said that, as the growth was only small, he would cut into it, before removing the breast, in order to make assurance doubly sure. He did so. A tablespoonful of brownish fluid escaped, and the tumour disappeared. I once afterwards did exactly the same thing myself before a crowd of students, even although perfectly aware of the liability of mistaking a very tense cyst for a scirrhous mass; so very close is the resemblance occasionally. I have always, however, protected myself against doing any harm to my patient by cutting into every tumour of the breast before operating. I have records of about 140 cases where I have removed the breast, and I dare say I did about a score more before I began to keep any notes of them. One would say that after this experience I ought to be sure of what I am about. But I nowadays tell the bystanders that in this particular corner of surgery my experience is such that I can afford to cut into a tumour before removing it. No harm can ever be done by this little precaution; but a breast once removed, when it ought not, can never be put back again, while those who have seen such a performance never forget it, nor the name of the man who did it either.

To sum up, then, I would say from general recollection, that the conditions which I have most frequently seen mistaken for breast cancer are a specially hard knot in the gland the subject of

chronic inflammatory induration, a small abscess, surrounded by a stratum of inflamed mammary tissue, a small fibro-adenoma in a middle-aged person, or a solitary, tense, deeply-seated cyst. In the case of abscess or cyst, should one entertain a suspicion of fluctuation, then the proper thing is to put in an aspirator needle and make sure. If the suspicion of fluid is confirmed, the mere tapping alone will probably cure the cyst. But chronic induration sometimes presents difficulties of diagnosis so insurmountable that the removal of the suspected part and its examination can alone solve the doubt.

Coming to the question of the *axillary glands*, I venture to take some little credit to myself for having been among the earliest to recommend that when a breast is removed for cancer, the axillary glands should always be removed also as a necessary part of the operation. About six years ago I read a paper at the Harveian Society of London, and speaker after speaker got up and denounced the proceedings. My experience, however, since then has only served to strengthen me in my views on this matter. Looking at the matter from a common-sense point of view, there must be a period when the glands are only infected to the slightest possible extent. In examining axillary glands after removal, I constantly demonstrate to students small ones, apparently quite healthy on the exterior, but which, when split open, show a minute central spot of cancerous infiltration. Now, I maintain that, in a tolerably well-nourished person, no surgical hands, however delicate, can, by any possibility, make out glands in the very early stages of infection. When a dresser, in reading a case, says "glands not affected," I immediately order him to change this observation to "diseased glands not to be felt;" which is quite a different thing. The truth is, that when a cancer of the breast has existed for twelve or eighteen months, it may be taken as a certainty that the glands are affected. The cases to the contrary are so few as only to prove the rule. As I said just now, I have now cleared out the axilla about 140 times, and only on a very few occasions have I been unable to satisfy myself that the glands were not with certainty diseased. As against this view of the almost invariable and early infiltration of axillary glands (which I strongly maintain), it is argued that there are plenty of cases where the breast alone has been removed, without touching the glands, and where the patients have never had any recurrence of the disease. For my own part this is an assertion that I very much doubt, and I should like to know a good deal more about these cases before admitting them as *bonâ fide* cases. In the first place, I should like to know who the surgeons were who performed the operations, so that I might judge of their pathological knowledge. A good

many tumours used formerly to be removed as cancers which were nothing of the sort. Another thing is, how long did the immunity last? Often a long period intervenes between operation and recurrence. I had a case of a woman whose breast alone was removed in America ten years before she came under my notice. In the site of the mamma there was not a trace of recurrence, but after all that long period the disease which had been lying dormant in the axillary glands or lymphatic vessels broke out in them. I had another case where I removed the breast and cleared out the axilla, thoroughly as I thought. Eight or nine years afterwards the disease returned at the very top of the arm-pit, in a position where further interference was impossible. A frequent experience of cases in which glands must have been distinctly affected at the time when the primary disease was discovered, although they showed no signs of mischief till years afterwards, has made me extremely sceptical as to cases of complete cure where only the breast and nothing else has been removed, and has only confirmed me in my assertion that the safest thing for the patient is always to clear out the axilla, whether glands can be felt affected or not.

Before the days when surgeons ventured to extirpate glands I can remember often seeing cancerous growths removed, and the glands left, although palpably enlarged. The hope was in such cases that perhaps they were only irritated by the presence of the growth, and would go down when that was removed. It was a sort of flattering unction which the surgeons of the last generation used to lay to their souls; like the hope that the small bit of cancer which they so often left behind in their operations would be quiet and not take to itself bad ways. It was a little attempt at self-deception; a little shirking of the inevitable, which perhaps was pardonable under the depressing circumstances. But my own observation would lead me to believe that cancerous growths do not irritate the glands after the fashion of a sore or a poisoned wound. *An enlarged gland in the neighbourhood of a cancer is always a cancer-infected gland*; and if this be laid down as a law, many mistakes will be avoided, while the exceptions will be found so few that they will take care of themselves.

If you can spare me a few minutes more I would like to draw your attention to the proper method of examining a breast, which is by no means so generally practised as it ought to be, and which teachers are not careful enough to impress upon students. Customarily the surgeon stands opposite the patient and grasps the breast. He commits two errors thereby. The mere grasping of the breast in this position will often produce the sensation of a tumour, and seriously detracts from

the power of judging of the size of one when one exists. In the second place the surgeon pushes the patient from him, who naturally yields, and this yielding, however slight, prevents a complete appreciation of the consistence of the tumour. The breast should be examined in three ways. In the first position the surgeon should stand behind the patient and ask her gently to press back against him, so that she may be thoroughly steadied. In the case say of the left breast, the surgeon should pass his right arm over the patient's right shoulder and his left arm beneath her left armpit. The increased power which is given to the surgeon of making out both the size and consistence of a tumour by this most simple manœuvre is astonishing, and I often wonder that it is not now more generally employed. In fact I always teach students that everything in the neck, breast, and groin should be examined from behind. There is no better method, for instance, of examining the hernial apertures with the object of getting on a truss. Taking the case of an inguinal rupture, the surgeon standing behind his patient, with the forefinger invaginating the scrotum and landed in the inguinal canal, and with the patient pressed firmly against him, transforms his arms into an animated truss, capable of accurately estimating the resistance necessary to be opposed to the downward thrust of the bowel. Having, then, examined the breast from behind, it should be examined from the front as a sort of "control experiment." Finally, the patient should lie on her back on the sofa and have the breast examined from above, when the tumour will assume quite a different size and consistence from what it presented in the two previous positions. Many of you, no doubt, do all this, but those who do not will forgive me if I press upon them the great advantages to be gained by this triple method of examination. I have confessed my own mistakes quite freely, but it would be absurd to say that I have not seen plenty of mistakes committed by others. Many of these have been entirely due to the false impressions given to the finger by examining from the front alone, and when I have got my medical friends to examine from behind, they have at once admitted the new conception of the tumour gained by this means.

At the end of all this, then, you may very well ask me how I would make up my mind in a dubious case of mammary tumour. I would say that I would not be influenced at all by pain or its absence. With regard to heredity, if that were well marked, it would of course weigh in favour of the tumour being cancerous, but its non-existence would not weigh in favour of the tumour being innocent. In the same way with regard to glands. The presence of a mass of enlarged and hardened glands in the axilla would be almost pathognomonic. But their absence (or rather the impossi-

bility of feeling them) would not weigh at all against malignancy; admitting that in a stout person no surgeon—even of the most heaven-born type—can detect glands which have in them only the first seeds of disease. Age would assist me much, for although I have seen cancer of the breast at eighteen and at twenty-six, still such instances are mere surgical curiosities, and the vast majority of cases occur between thirty-five and fifty. If the tumour were situated just beneath the nipple, then retraction of that structure would be alone a sufficient and perfectly pathognomonic sign that the disease was cancer. Retraction, if the tumour were at any other part of the gland, would have no particular significance. The features upon which I would place most reliance, as invariably belonging to scirrhus tumours, would be intensity of hardness and want of definition. These are signs that are never absent, however much the others may vary. Finally, if the tumour lay near the surface, I should attach great importance to the tucking down of the hair follicles, on pinching up with the fingers the skin over the tumour. You know the appearance of saddle leather. It exactly resembles that, inasmuch that I always describe it as the “pig-skin appearance.” Now, you may have tumours and inflammatory conditions which may cause adhesion of the skin to them, but there is no condition except scirrhus, in which the well-marked pig-skin appearance is visible. I have often wondered why in text-books more prominence is not given to it as a diagnostic sign.

Well, Gentlemen, I have told you, I fear, a number of common-place things and nothing new. I fall back upon two old sayings, the first: That what is new is not always true; and the second: That a good tale is none the worse of being twice told. As a matter of fact, the majority of you will be the general practitioners of the future. It is to you that the sufferers from cancer of the breast will first come. By an error in diagnosis on your part; by loss of time in employing “discutient” treatment (which is of none avail), the invaluable period may slip away, during which alone removal can be expected to do any permanent good. A great responsibility will be laid upon your shoulders, and if, by the recital of my own experience and errors, I have been able to make some dubious matters in connection with the diagnosis of mammary cancer a little clearer, or pointedly to draw attention to others as valuable diagnostic signs, I shall be satisfied.

For Fissured Nipples. (*Ther. Monatsche*):

| | | | | |
|---|-----------|-----|-----|-------|
| R | Ol. Olivæ | ... | ... | 3j |
| | Ichthyol | ... | ... | 3iv |
| | Lanolini | | | |
| | Glycerini | ... | ... | āā 3v |

To be applied to the affected parts.

A CLINICAL LECTURE

ON

CHRONIC PELVIC ABSCESS.

Delivered at St. Mary's Hospital, Dec. 13th, 1892,

By M. HANDFIELD-JONES, M.D. Lond.,

Obstetric Physician to St. Mary's Hospital and The British Lying-In Hospital; Lecturer on Midwifery and Diseases of Women to St. Mary's Medical School.

THE causes of suppuration in the pelvis are numerous: thus, we may have discharges of pus dependent on pyo-salpinx, or again on breaking down hæmatomata, or to discharging dermoid cysts. To-day, however, we will limit our subject by dealing only with such cases of suppuration as follow the onset of primary inflammation of the pelvic cellular tissue. We have not time to go deeply into the causation of such suppurations, nor extensively into the difficult subject of the diagnosis, but will assume that when we have knowledge of a mass of exudation in the pelvis, and the temperature chart is giving us the evidence of hectic, we may then fairly assure ourselves that the stage of inflammation has past, and that actual suppuration has commenced.

No one who has dealt extensively with the subject of pelvic abscess, and has had much clinical experience of the same, can fail to be struck with the immense differences shown in the clinical course of such cases. In one instance pus forms, is evacuated at an early period, and the whole of the abscess cavity is completely obliterated in a month or six weeks; in another case all the resources of surgical art fail to bring about closure of the abscess cavity, or healing up of the resulting sinus in six months or even a year.

If we come to study cases of chronic pelvic abscess, we notice at once that three principal classes come under observation. Thus we have cases (1) where the delay in healing seems to be due to the tough, uncontractile wall of the abscess cavity; (2) in the second group the secret of the delayed healing lies in the presence of tubercle; (3) in a third class of cases we are dealing with one or more openings leading into the neighbouring intestine. It is at once clear that the all-important factor in securing a quick closure of the pus cavity is early evacuation of its contents before either the wall has become tough and fibrous, or again, before communication has been set up with the neigh-

bouring viscera, or lastly, before tubercle has had time to develop.

In connection with this need of early evacuation, it is valuable to take note of the method of opening these abscesses. The following case will show the plan of procedure :—

"Mrs. S., *set.* 29, was confined two and a half months ago of her second child. Pelvic inflammation supervened on the third day, and the patient was confined to her bed for six weeks. After that she was allowed to get up and about, still complaining of pain in her left side, and a sense of burning and throbbing in that position. Examination by the abdomen and vagina showed that the womb was pushed over to the right, and that the whole left half of the pelvis was occupied (especially in the posterior part) by a dense, hard mass which reached upwards and backwards above the brim of the true pelvis. The temperature chart suggested strongly the presence of pus. An incision was made through the abdominal wall, internal to and a little below the level of the left anterior superior spine. After reaching the transversalis fascia, the finger could be pushed down into the cavity of the true pelvis and detect a hard mass, situated posteriorly. At no point could any softened spot be made out, nor with a trocar thrust deeply in various directions was it possible to find pus. Under these conditions it did not seem advisable to continue the exploration, but iodoform gauze was plugged tightly down in the track of the finger, and the superficial wound left open. Five days after this procedure pus was found to be coming away along the track of the gauze; in a few days free drainage of the abscess cavity was secured, and a satisfactory recovery soon ensued.

Most of the surgeons who have operated for pelvic abscess know that they have more than once felt certain of the presence of pus, and yet have failed to reach it. The method adopted in this case gives one a safe plan of securing early evacuation of the contents of the abscess without having resource to a long and dangerous exploration.

We now come to obstinate cases of pelvic abscess, cases in which though an opening has been made and drainage has been secured, either by the abdomen or the vagina, yet closure of the sac fails to take place. We may narrate several cases illustrative of this condition.

Case 1.—Miss M., aged 29, admitted to St. Mary's, July, 1890. Two months ago noticed swelling in her abdomen; says that she got a chill some weeks ago while menstruating; shortly afterwards had sharp pain in her abdomen. Examination shows that the cervix is displaced to left; the external os is stenosed and directed forwards, the body of uterus seems continuous with a mass which occupies the posterior half of the pelvis, and is most prominent on the right side. Examination by the abdomen reveals the presence of a mass above the symphysis pubis which seems continuous with that in the pelvis. A month later, as the patient was steadily losing ground, and the temperature was running up every night, with loss of flesh, and small, weak pulse, it was decided to explore the abdomen. On opening the peritoneum midway between the navel and pelvis, the intestines were found glued together, and dotted with tuberculous deposits. On exploring the mass above the pubes with the index finger, the latter forced its way into a large abscess cavity which occupied the right and posterior part of the pelvis, and

burrowed up towards the caecum. The abscess cavity was washed out and drained by a Keith's tube. In spite of free drainage the cavity refused to close, and death followed from gradual exhaustion on October 16th, of the same year. At the post-mortem, an abscess cavity was found in the right half of the pelvis, and in the wall of sac as well as in the ovaries, tubes and neighbouring intestines, tubercular deposits were easily demonstrated.

Case 2.—E. T., *set.* 35, was ailing in January of the present year. Menstruation had become profuse and unduly frequent, pain in the left side was constantly present, flesh was being rapidly lost, and the patient rendered unfit for work. Examination of the lower abdomen showed that the muscles were tense, and that there was a hard mass in the left half of the pelvis. By the vagina the uterus was found to be fixed, and to be pushed over to the right by a hard mass which occupied the left half of the pelvis. The temperature chart was indicative of the presence of pus. In March, the patient being in much the same condition, and on the whole, losing ground, it was decided to explore the abdomen. On opening the abdominal cavity the layers of the left broad ligament were found to be opened up, and fluctuation could be detected beneath. An incision made into the fluctuant mass gave vent to pus. The edges of the incised peritoneum of the broad ligament were stitched to the peritoneum of the abdominal wall at the lower end of the abdominal incision and the pus cavity freely drained. In spite of this free drainage no attempt had been made at repair at the end of two months from the date of operation; on the contrary the cavity was found to have extended down towards the vaginal roof. A counter opening was now made in the roof of the vagina, and a large rubber drainage tube drawn through from the abdomen into the vagina. Through this a stream of boracic solution was sent twice daily, and the cavity kept well washed out. About this time signs of pulmonary phthisis manifested themselves, and consolidation of the right apex speedily followed. The loss of flesh was rapid, and the patient died from exhaustion. At the post-mortem a large abscess cavity with general tubercular deposit was found to be present.

These two cases point out clearly how, in spite of the best surgical relief and successful drainage of the abscess cavity, the presence of tuberculous disease may frustrate and render abortive all attempts at restoration.

In a second class of cases we have to deal with pelvic suppurations where healing is delayed or rendered impossible by communications with neighbouring viscera. The following case comes under this heading, and is instructive as an example of the difficulties which may arise when faeces make their way through the fistulous openings established by nature or by the surgeon's knife :—

Mrs. S., *set.* 38, was severely trampled upon while attending a large meeting; for some days she was confined to her bed from shock and pain in the lower abdominal region. Her menstrual period which was due, did not come on, but throbbing pain developed on the left side of the pelvis, and became persistent. In spite of rest in bed, but little improvement was made, and at the end of four months she had lost flesh considerably, was much reduced in strength, and had rise of temperature nightly. About this time I saw her, and found a large dense swelling, reaching up out of the pelvis on the left side almost to the abdominal wall, and extending downwards by the side of the rectum, pushing down the vaginal roof on that side. The uterus was displaced to the right, and

firmly fixed. A fortnight later she was moved into hospital, and about that time pus began to appear in her motions. As it was impossible at this time to find the opening in the rectum, the abdominal wall was incised near the left anterior iliac spine, and a drainage tube passed into the pus cavity. For some time, less matter was passed in the motions, but liquid fæces came away freely by the abdominal opening. At the end of six weeks no change had arisen; the fæcal matter was still coming away freely through the abdominal opening, and the patient was rapidly losing ground. In a consultation with my colleague, Mr. Page, it was determined to put the patient under an anæsthetic and to explore the rectum. When she was fully anæsthetized, it was possible to pass a finger high up into the rectum and find a valvular opening, which on being dilated by the point of the finger gave admission to the abscess cavity. It was now possible to touch the point of a sound which Mr. Page had introduced through the abdominal incision. With the help of a long probe a drainage tube was drawn from the abdominal surface through the pus cavity into the rectum, the end emerging from the anus. Having thus secured complete drainage of the abscess, tincture of iodine in water was passed twice daily through the tube. In spite of constant washing out, and paying every attention to general hygiene, the patient slowly succumbed, and died two months later. At the post-mortem it was found that the abscess cavity communicated freely with the abdominal surface and with the rectum; also that two coils of small intestine had become adherent to the roof of the abscess cavity, and had ulcerated through discharging their contents into the general cloaca.

This case is instructive, inasmuch as it points out the difficulty of deciding to what degree a pelvic abscess may have formed fistulous communications with the intestines at several points. It enables us also to understand why free drainage through a rectal fistula may still be insufficient to prevent fæcal matter appearing at the site of the abdominal operation.

The following case will illustrate equally this variety:—

Mrs. B., æt. 32, was seized with sharp pain in the region of the left ovary, shortly after the cessation of a monthly period. She did not lie up, nor did she consult a surgeon at this time. After some weeks of suffering, she went to her medical man, who found evidence of cellulitis in the left broad ligament. With rest and care she made a partial recovery, but the pain never entirely ceased, nor did the exudation become entirely absorbed. Some six months later, she was again seized with a similar attack, and this time was confined to her bed for three weeks. At the end of this period, shiverings set in, and rise of temperature was noted. Some weeks later, when these symptoms had subsided, she travelled to town and saw a specialist, who found a hard swelling to the left and behind the uterus. As operation was not deemed advisable, she was sent down to the seaside, and while here began to notice that matter was being passed in her motions. A finger introduced into the rectum found a hard lump pressing on the anterior and lateral wall of the bowel, but no sinus was detected at this time. Three weeks later, as the patient's condition was becoming steadily worse, chloroform was administered and the rectum again explored; this time it was found possible to reach an opening which led upwards, and to the left, into a distinct cavity, the walls of which were extremely rough and gritty. The treatment adopted was to introduce a tube per rectum and to fill the cavity with an

iodoform emulsion, treating the suppurating sac very much in the manner employed in some cases of psoas abscess. Under this method the wall of the cavity was kept fairly aseptic, discharge of pus rapidly lessened, and evidence of healing became apparent. At the same time that attention was paid to the abscess cavity, endeavours were made by careful nursing, feeding, and moderate stimulation to improve the condition of the patient as far as possible. Gradually gain was made; hectic disappeared, and the patient slowly but steadily secured a perfect recovery.

In all these cases, whether the abscess cavity may communicate with bowel, bladder, or vagina, it is clear that healing is impeded by the free entrance of noxious matters into the sac of the abscess, and healing can only be brought about by filling the pus cavity with some germicide, such as iodoform emulsion, and so bringing about a condition favourable to the process of repair.

In the third class of cases we have to deal with pus cavities where there is but a solitary communication with either bowel, bladder, vagina, or abdominal surface, but where the thick unyielding wall of the abscess retards almost indefinitely the closing of the sinus. That this thickened condition of the wall does exist is abundantly demonstrated by post-mortem evidence, as well as by the experience of operating surgeons. It is not unusual in making an autopsy to find a tough fibrous wall to these cavities, the thickness of which may vary from half an inch to an inch; and again, when attempting to cut into these cavities from the abdominal surface, or through the vaginal roof, the surgeon may find that his knife has to pass through half an inch of tough organised tissue before a gush of pus tells him that he has reached the cavity.

This type of case may be illustrated by the following history:—

Mrs. T., after her last abortion at the end of the fifth month of pregnancy, was attacked by pelvic cellulitis. After some weeks of suffering, the presence of pus was suspected, and as a hard mass could be felt in the left posterior quarter of the pelvis, extending up to the left iliac fossa, an attempt was made to reach the matter by an incision through the abdominal wall above the left Poupart's ligament. The pus was not found, so the wound was stitched up and allowed to heal. Two months later the wound was re-opened, and this time pus was found near the left psoas muscle posteriorly. The finger passed into the cavity found a sac capable of holding some two ounces of pus with firm fibrous walls. In spite of free drainage and constant washing out with iodized water, some six or seven months elapsed before the cavity had perfectly cicatrized.

Cases of this description are fairly numerous, and tell us how important it is to reach the pus early, and evacuate with drainage, while the walls of the abscess are yet in a favourable condition for quick cicatrization.

A CLINICAL LECTURE
ON
**A CASE IN WHICH PARAPLEGIA
FOLLOWED SYPHILIS.***

BY
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GENTLEMEN,—The case which I am now about to relate is one of the most interesting examples of paraplegia in connection with syphilis which has come under my observation; but it is by no means without its obscurities.

Mrs. S. was sent to me by a surgeon in one of the Midland counties, who was good enough at the same time to supply a very detailed history of her illness.

She had been married two years, and during her first pregnancy had presented syphilitic symptoms. My friend informed me that he had attended her for the first time during March, 1870, when she was about four months pregnant. She had at that time superficial sores on both tonsils, not very characteristic, and the margins of both labia were covered with ulcers of a superficial character. There were also several small ulcers at the margins of the anus. She had no disease of the mucous membrane either of the vagina or the rectum, and no eruption on the skin. Somewhat later, however, a patch or two of dark scaly eruption appeared on the neck. Some weeks before consulting my friend she had seen Dr. Burrows in London on account of severe neuralgia in the right side of the head, attended with "lumps on the head." Dr. Burrows prescribed iodide of potassium in five-grain doses, and both the lumps and the neuralgia disappeared. I am particular in mentioning these symptoms, because, as we shall see presently, there is room for question as to how this lady got her syphilis. My own impression is that her symptoms were due to the tainted foetus with which she was pregnant; and you will observe that they present a curious mixture of tertiary and secondary symptoms together. Under the use of

iodide of potassium internally, and calomel ointment to the sores, Mrs. S. got quite well before her confinement. She was confined in July, having continued the iodide up to that time. I ought to have said, however, that during the preceding May she had a creeping ulcer on the soft palate; this also had healed under the iodide before her confinement. Her child was small and feeble from its birth; and when six weeks old a few ill-defined spots appeared on its legs. There was some stuffiness in its nose, but no characteristic snuffles. Its right leg appeared to be weak, at any rate it did not move it as well as the other. No mercury was given to the child, as it frequently suffered from diarrhoea. It took small doses of iodide of potassium with cod-liver oil. It died, much wasted, early in November. Mrs. S. regained good health after her delivery, and continued perfectly well until her paraplegic symptoms set in. This was in January, 1871—seven months before I saw her. She had been out driving one day with her husband, and had got chilled. On returning home she felt starved and uncomfortable. On the next day she was obliged to keep her room on account of sickness; and, after suffering from sickness severely for several days, she had what her nurse asserted to be an abortion. She had not previously thought herself pregnant. The so-called abortion was attended by profuse loss of blood, and after it the sickness ceased. During this illness she began to lose the use of her legs, and a day or two after the abortion they failed more rapidly, and to such an extent that she was not able to move her toes in the least. The loss of sensation, although not so complete as that of motion, was very decided. She became unable either to retain or to expel her urine and fæces, and for several days the catheter had to be employed. Subsequently the bladder regained its power, but up to the time of my seeing her, her sphincters continued very feeble, and often proved inefficient. For the paraplegic symptoms she was again treated by iodide of potassium, and in a few weeks the improvement was very decided. In April she had become able to walk about again. At the time that her paraplegia was at its worst, that is, within a few days of its commencement, there was some slight numbness of one or both hands, but it soon passed off.

I must here say a word or two about her husband. He admitted having had syphilis about a year before his marriage, but from his ac-

* This Lecture was delivered and written out soon after the patient was under observation (1871), since then I have seen many other cases of Syphilitic Paraplegia, and have published several. This case, however, has hitherto, for special reasons, remained unpublished. It appears to me to be worthy of being placed on record.

count it appeared to have been a mild attack, and he had been quite free from symptoms for some months. He appeared to be in excellent health at the time I saw him.

You will see that whatever hypothesis we adopt as to the mode in which the disease had been acquired—whether we think that Mrs. S. had had primary disease communicated to her soon after marriage, or that she only received a taint through the foetus, there can be no doubt that she had become constitutionally syphilitic. I may add, in yet further support of this belief, that she was sent to me not on account of the paraplegia, but on account of a sharp attack of kerato-iritis in the right eye. Mark, it was not an attack of the ordinary form of syphilitic iritis, but one in which the cornea was at least equally involved with the iris, a form which occurs at a much later period in the rôle of syphilis than does the common typical iritis. But granting that Mrs. S. was undoubtedly tainted with syphilis at the time she became syphilitic, we have still to ask the question, Was it probable that her paraplegia was caused by her syphilis? It might be suggested by some that it was more probably due to myelitis from exposure to cold, or even to reflex irritation in connection with the abortion. Wishing to have these points cleared up as much as possible, I requested a consultation with my friend and colleague, Dr. Hughlings Jackson. Dr. Jackson gave a positive opinion in favour of syphilis. He attached considerable importance to the rapid development of the paraplegia, as indicative of some positive lesion in the cord, and as suggestive of myelitis from thrombosis. He thought the fact that the paraplegia was not absolutely symmetrical, one leg suffering more than the other, was in favour of the diagnosis of syphilis. In arriving at this diagnosis, however, the history of the case and the existence of iritis were the main facts upon which both of us relied. We agreed, in addition to special measures for the eye, to recommend the continuance of iodide of potassium in yet larger doses.

As I think we may quite safely take this case as a proved example of syphilitic paraplegia, it may be instructive to advert a little more in detail to its peculiarities.

1st. We may remark that its onset was rapid. The patient was very sick, had pain in her back, and found her legs getting weak. This had only lasted a few days, when she suddenly lost all power in them. She stated that on first getting out of

bed that morning she could walk, though feebly, and that at nine o'clock she could not move her feet.

2ndly. The paralysis involved both motion and sensation, and in the first instance interfered with the vaso-motor nerve as well. The loss of motion was complete, and the loss of sensation nearly so. I have often pointed out to you that, in cases where both motion and sensation are involved, it almost always happens that the loss of motion is in excess of that of the more passive function of sensation. It is not very difficult to give an explanation of this. In the present instance, I have no doubt, from the lady's description, that for a few days, both functions were in almost total abeyance. The implication of the vaso-motor nerve was indicated by the occurrence of paralytic constipation and paralytic retention of urine. Although the sphincters of both bladder and rectum were absolutely paralysed, yet neither the one nor the other viscus could at first empty itself. On one occasion the surgeon was sent for on account of a tumour which had formed in the abdomen, and he found that the tumour was really the distended bladder. Subsequently this paralytic retention was substituted by paralytic incontinence, and the urine flowed into the bed. This is just what we see in cases of fracture of the spine; the detrusor, under the control, in part at least, of the vaso-motor nerve, recovering its function much sooner than the sphincter. The constipation persisted, and still does so.

Next we may note the patient's recovery, as having been unusually rapid and satisfactory. Paraplegia, from other causes, is but too often a persistent symptom, especially when it has advanced to anything like completeness. In this case, on the contrary, we find the patient in the course of a couple of months able to walk about again. Of all forms of paralytic nerve lesion, none are so frequently curable as those in connection with syphilis.

I have already mentioned that Dr. Hughlings Jackson laid stress upon the fact that the paraplegia was not quite symmetrical. At the time that we saw the patient she could walk tolerably well, using a stick, but her right lower extremity was much more feeble than the other.

If you ask me what my theory is as to the pathological anatomy of such a case as this, I shall be obliged to reply somewhat vaguely. I do not, however, think that there is any reason to believe that paralysis depends upon compression of the

cord from a periosteal node of the vertebræ. I should suspect rather the existence of myelitis.

Postscript.—Six years after the above lecture, I obtained a report as to the state of the patient who was its subject. She had remained in much the same condition, as regards the weakness of her legs. They were neither better nor worse. She enjoyed fair general health, and had not experienced any return of syphilitic symptoms. The only exception to this latter statement was, that she had once suffered from severe facial neuralgia, which had been relieved by iodide of potassium. Her case stands then as one of partial recovery from an acute attack of syphilitic paraplegia. The recovery so far as it went, was obtained early, and after a certain point had been reached there was no further improvement. Nor was there, although all treatment was laid aside, the slightest tendency to relapse. These facts are exactly parallel with what I have witnessed in not a few other cases. Some patients die in the course of a few months, the paraplegia persisting and being attended probably by secondary but aggressive sclerosis. A few recover so completely that no obvious trace of the paralysis remains. The great majority, however, under vigorous treatment by specifics, recover rather rapidly up to a certain point, and regain the power of walking. The improvement is, however, never progressive after a certain, comparatively short, period has elapsed. A very cheering point in reference to the prognosis is, that no relapses occur. I have more than once known patients who had passed through an attack of syphilitic paraplegia, marry afterwards, and retain in married life good spinal health.

CLINICAL NOTES.

(Specially reported for The Clinical Journal. Revised in each case by the Author.)

WITH MR. PEARCE GOULD IN THE OUT-PATIENT DEPARTMENT AT THE MIDDLESEX HOSPITAL.

Some points in the Diagnosis of Lipomata at an early stage before dimpling of the skin has occurred.

Of the diagnostic points usually given, (1) their position in the fatty layers, (2) their lobulated growth, (3) semi-fluctuation, (4) mobility over

muscle and under skin, I regard the second as the most important, as all the other three apply equally well to chronic abscess. Pain is only present as a complication, the result of pressure on a nerve. By fluctuation we mean an increased tension in one part of a tumour on applying pressure on another part.

The most common errors made in examining for fluctuation are to mistake for it (1) softness of a swelling, and (2) mobility of tumour. Both of these errors are made in the case of small movable lipomata. A *soft* swelling yields to pressure, but then this yielding is not attended with increased fulness of the tumour elsewhere. When a *movable* tumour is pressed upon, its displacement may easily be mistaken for increased tension in it. Always be on your guard against these errors, and remember so to feel for fluctuation as to fix with one hand the tumour, and then, while gently compressing one part with a finger of the other hand, notice whether the rest of the tumour becomes more tense.

Some points in the ordering of Trusses.

This patient has a double inguinal hernia, and we have to order a suitable truss for him to wear. What points are we to consider as regards the make of the truss and its special applicability to this patient? A truss consists of two parts, the pad and the encircling spring. The forms of pad are very numerous, but the two main varieties are those presenting a flat and those presenting a convex surface with which to exert pressure. I prefer, and shall order for him, a flat pad, which will exert an uniform pressure on the internal ring and inguinal canal. The convex are often painful owing to the pressure being concentrated on one point, instead of being equally diffused, as in the case of the flat pad. A flat pad is less likely to slip during the movements of the body than is a convex one. This pad must be pressed by the spring of the truss on the right place, in the right direction, with sufficient force to resist the tendency of the hernia to escape, and the spring must so fit the patient that in the various movements of the body it will not become displaced.

Now as to the spring, it can be made of any strength. Having briefly considered the question of the truss, we must consider the peculiarities presented by the patient, to guide us as regards the necessary measurements, the direction in which the pad is to press, and the strength of spring

necessary to maintain constant pressure. I might remind you that trusses fail from three main causes:—

(1) Pad is not over the point of escape of the hernia—here the internal ring.

(2) It is not applied in the right direction to give the necessary support.

(3) The spring does not fit, or is not sufficiently strong.

With these causes of failure in our mind, how can we obviate them:

(1) By taking proper measurements. The patient should be measured in this manner. With the patient standing up, pass a tape around the pelvis below the iliac crest and bring the ends together at the internal abdominal ring or the point of escape of the hernia through the abdominal wall. The pad must be adapted in size to that of the canal through which the hernia escapes.

An easy rule to remember is: *small hernia, small ring, small pad*; and per contra, *large hernia, large ring, large pad*. In this patient the ring is small, so a small pad only is necessary.

(2) By noting whether the belly is pendulous—in other words, the direction in which the hernia descends. This man is stout, with slightly pendulous belly, so to obtain the proper pressure on the internal ring I shall order the pad to be fixed obliquely on the spring, so that it presses upwards and backwards. In a thin man more direct backward pressure is needed, and the pad must be fixed accordingly.

(3) Accurate measurements must be taken to enable the spring to be accurately adapted to the body. In ordering its strength we must be guided by the patient's habits; one following arduous employment, entailing the lifting of heavy weights, will need a stronger spring than one subjected to no strain. Again, a patient who coughs persistently and violently will need a strong spring. This man, being a rag merchant, and having to lift heavy weights, will need a fairly strong spring.

A proper comprehension of these facts is of the utmost importance, and it is more scientific on our parts, and more satisfactory to the patient, if we recognise this, and measure our patients carefully at first and order the truss. If it fail we can quickly ascertain the reason and rectify it, instead of groping in the dark and trying how it answers to increase the size or convexity of the pad or to increase the strength of the spring.

We shall therefore order this man a truss from

the following measurements: circumference of pelvis to internal abdominal ring, $32\frac{1}{2}$ inches; it will be for a double inguinal hernia; the pad will be flat, oval in shape, $2\frac{1}{2}$ inches long; it will be attached obliquely to the spring, so as to press upwards and backwards; the spring will be made of a size in accordance with the measurements, and of medium strength to afford the extra support rendered necessary by the occasional strain to which he is subjected by his employment. Do not apply unnecessarily strong springs, and when you find a truss inefficient look first of all to its "fit," and there you will almost certainly find the fault; and *be very slow to remedy defects by either increasing the size of the pad or the weight of the spring*.

The Treatment of Congenital Talipes.

Regarding congenital T. equino-varus rather as the result of defective evolution of a limb than the result of paralysis or spasm of muscles, I now prefer to treat such cases by manipulation, bandages, splints, and plaster of Paris bandages than by tenotomy. I will illustrate on this infant three weeks old the nature of the manipulations I adopt; and those of you who come here regularly will have an opportunity of seeing the progress made. I may say here that the treatment can hardly be begun too soon. If you are attending a midwifery case where the child is club-footed, commence your treatment on the following day.

Three separate movements must be made. Grasp the little heel and ankle in the left hand, and taking hold of the front of the foot in the right hand gently abduct the front of the foot, beginning with very slight pressure and gradually increase it until the parts on the inner side of the foot are felt to be tightly stretched. Then in the same gradual manner perform rotation outwards (eversion) of the front of the foot. Now, having in this way, to a great extent, corrected the inversion and abduction of the front of the foot, I hold the foot in this improved position and dorsiflex it, gaining more and more with each movement, until now you see I have nearly corrected the deformity in all three of its component parts: the inversion, the abduction, and the extension.

To maintain this improvement, I take a piece of strapping one inch wide, and eight inches in length, and a long roller bandage one inch wide. Holding the foot in its improved position, the bandage is wound around the foot and leg up to the knee, taking care to carry the roller round the limb from

the front down the inner side to the back. By thus reversing the usual (English) way of passing the bandage, we tend to keep the foot in its good position. One end of the strapping is then fixed to the dorsum of the foot, just behind the great toe, and then the strapping is carried across under the sole, and up the outer side of the leg to just below the knee. The roller bandage is now carried down the leg over the strapping, and several turns are made around the ankle and instep. In a very young and puny infant, such as this one, the strapping and bandage afford quite sufficient support. You will find it better to put the strapping over the first layer of bandage in young infants, as you will then avoid all risk of blistering or cutting their delicate skin. When the bandage is removed the limb should be carefully rubbed, and the child encouraged to move it himself, before the passive movements are repeated, and the bandage be reapplied.

If possible, the treatment should be carried out daily. To add to the efficiency of this treatment, a side splint will soon be required, and when the foot is fairly straight, we shall put it up in plaster of Paris. Treatment should be carried out for about two years; and after that the child should be watched during the period of life when the bones are growing, lest any relapse of the deformity occur. You cannot begin your treatment too soon; you must correct the deformity completely; you must guard against relapse when the child begins to walk, and watch for it all through the period of active growth—these are your cardinal rules.

Prognosis in Nocturnal Enuresis in children.

Occasionally, one meets a case where all treatment fails; circumcision may have been performed, all causes likely to produce it in a reflex manner may have been removed, and drugs have been found of no use. I believe that, as a rule, it will be found that this condition will disappear at puberty, and I think we are justified in saying so, to ease the minds of the parents. This girl, aged 20, has suffered from nocturnal incontinence all her life; and, at first, seems to contradict this theory. She tells us she has no trouble in the daytime, she can hold her water for five to eight hours, without difficulty, and none ever escapes involuntarily during coughing, sneezing, and laughing. It is, evidently, a case of pure nocturnal

incontinence, connected with the nervous mechanism of micturition. She, however, tells us that she only commenced to menstruate six months ago, and this function is evidently not yet properly developed, as she has only menstruated twice since. I have examined her, and find nothing anatomically to account for her condition. I shall, therefore, order her belladonna and bromide of potassium, and give her a hopeful prognosis that she will be free of her trouble soon.

FORMULÆ.

Iodised Vaseline. (*Pharm. Centralblatt*):

Dissolve

| | |
|-----------------|-----------|
| Iodine | 5 parts |
| in Ether | 100 parts |

And add to the solution

| | |
|-----------------|----------|
| Vaseline | 95 parts |
|-----------------|----------|

Let the Ether evaporate. Iodised Vaseline will keep better than the Tincture of Iodine.

Hæmostatic Cotton Wool. (*Pharm. Pr.*):

| | |
|--------------------------|----------|
| R Glycerini | 15 parts |
| Aquæ | 250 " |
| Alcohol | 200 " |
| Liq. Ferri Perchlor. ... | 150 " |

M. In this mixture, soak 200 parts of cotton wool; and then press until its weight is the equivalent of 600 parts. It must be dried in the dark.

Salol-Collodion in Rheumatism:

| | |
|------------------|------------|
| R Salol | |
| Ether | āā 4 parts |
| Collodion | 30 " |

M. Ft. pigment. To be painted on the affected parts.

Toothache. (*Deutsche Med. Zeitung*):

| | |
|-------------------------|---------------|
| R Creasote | |
| Æth. Tinct. Menth. Pip. | āā ℥ij |
| Ol. Caryoph. | ℥v |
| Ol. Camph. | ℥ij |
| Cocain | gr.ij |
| Chloroformi | q.s. ad pasta |

Sig. Enough to be used to fill the hollow in the tooth.

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SOME CLINICAL OBSERVATIONS

ON THE

DIAGNOSIS OF SCARLET FEVER FROM RUBEOLA AND RUBELLA.

BY

WILLIAM SQUIRE, M.D., F.R.C.P.

THE prevalence of scarlet fever in London last year afforded many instances wherein the diagnosis was obscure. I will give two cases of children that came under my notice in July, one with measles about to be sent to a special hospital as a case of scarlet fever, the other allowed to spread scarlet fever under the name of epidemic roseola or false measles.

Case 1.—A girl, 3 years old, was ill with sore throat and dysphagia on the evening of July 9th, with flushed face and high fever; the next morning the flush was noticed on the neck, and the throat symptoms had increased so as to give the doctor in attendance an impression of malignant scarlet fever, and steps were taken for the child's removal. On my arrival soon after mid-day, before seeing the patient, I ascertained that the sudden fever and sore throat of the previous day were not the first symptoms of illness. Four days before that, July 4th, the child had vomited; though better the next day, diarrhoea followed, and she had been in bed one day with a feverish cold, short cough, and coryza. On consultation, some exudation on one tonsil looked more like diphtheria than scarlet fever, though externally there was not the special tenderness of the deep lymphatics at the angle of the jaw common to both these diseases, while the more superficial cervical glands were palpably obvious; there was no nasal obstruction nor laryngeal cry, and no signs of pulmonary mischief. A mottled rash on the shoulders and over the body made plain what had been inferred from the history of the invasion. A little iced water was prescribed, and measles near its height diagnosed: a subsidence of temperature with the full rash removed all anxiety before morning. A dusky mottling of the skin was often noticeable till after a critical diarrhoea in the third week. The whole history is as follows. This little girl was an

only child; on June 25th she was taken to the sea-side; in the same carriage was a child with weak eyes, who had been ill, evidently sent to the sea-side while barely convalescent from measles. The weather was hot; some diarrhoea on the 26th was attributed to this cause, and its recurrence on the 28th determined a return to London the next day.

We may generally date infectious illnesses in young children living at home apart from others from some journey or visit. Here the sick attack five days after arriving in London, where scarlet fever was very prevalent, would have agreed with a suspicion of that disease; but the initial fever completely subsided, and the sore throat and flushed face were first noticed on the fourth day, and not on the second; moreover, the child had then been indoors and exposed to no source of infection for eight or nine days, a longer interval than I have yet met with for the incubation of scarlet fever. We appeal to the incubation period rather to confirm a diagnosis than to form one in the first instance; but the value of the course of invasion in any specific fever can hardly be over-rated as an aid to diagnosis. There are periods in most of the exanthemata when the rash alone is distinctive, but that is not always at the time when the diagnosis is most urgent, nor is it wise ever to depend solely on the aspect of the rash; inquire into the symptoms preceding and accompanying it, and, if possible, watch its further progress, or wait till a second visit before pronouncing definitely, meanwhile adopting such precautions as seem warrantable. I remember seeing an unvaccinated child, obviously very ill and unable to say how, with the raised "shotty" spots that are like the early eruption of small pox; but marked illness, fever, and laryngeal cough had already existed for three days with some sudden sickening a day or two earlier. This was inconsistent with small pox, and next day measles was fully declared; yet a doubt as to any members of that household being well protected from small pox would make it right to have their vaccination seen to.

A little care prevents small pox passing for either of the rubeoloid exanthems; a more important difficulty is found in distinguishing varioloid from varicella; once allow any modi-

fied form of small pox to pass under the name of the totally distinct chicken pox, and who knows where the mischief will end? for the first susceptible person met with may from such a case contract small pox in its severest form.

Varicella is oftener perhaps mistaken for variola. In a preparatory day-school for boys where several were attacked, I saw a lad in the afternoon slightly feverish and dull, who had walked out with the others and eaten a good dinner; already a few slightly raised red spots, paling on pressure, were found on the back of the neck and shoulders, and he was sent home with a note saying what was suspected, and that another boy had left in the previous week ill with what proved to be chicken pox. This second boy's illness so increased in the night, with more spots and so much fever, as to make the family medical adviser pronounce it to be small pox. Chicken pox may occur without notable rise of temperature at any part of its course; or begin with a high temperature. I have known it 104° on the first day, subsiding so as to be of little help in the diagnosis, until a slighter rise on the second or third day with a fuller and more characteristic eruption completed the diagnosis. The first spots of chicken pox may be distinguished from the "shotty" stage of small pox by stretching or pressing the skin, when the former almost disappear, and as some such are to be found on the second and third days of the eruption of varicella, while no new spots appear on successive days in varioloid, this confirmatory sign may be welcome. Varicella is unlikely after a previous attack, or after adult age. However sparse the spots in varioloid, and slight the signs of fever after their eruption, marked signs of illness with fever and aching of the back and limbs occurred two days previously, perhaps with chill and vomiting. In varicella, if any fever or signs of illness precede the spots it is by a few hours only, or *less* than *one* day. When in text-books we find it stated that the prodromal fever of chicken pox may precede the eruption "by one to even three days," we suspect some case of varioloid influenced the first and unknown author of the statement since copied without inquiry. Any instance of this, or of similarly exceptional occurrences, such as only four days incubation for chicken pox, should be submitted to full consideration in the medical journals at the time of observation.

My second case bearing upon the diagnosis of *rötheln* or *rubella* from scarlet fever includes

observations on two young women, a girl of nine years old and a nurse of twenty-seven years, in this part of London.

On Monday afternoon, July 18th, 1892, the girl is sent home in a cab from a school in a northern suburb, a rose rash having been noticed in the forenoon, and attributed to over-exertion on the previous evening; she had been out for a walk then, and seemed to be quite well but felt ill on Monday morning before any rash was observed on the face. On arrival she was sent to bed and arrangements made for her isolation; medical advice was obtained on Wednesday, when very little illness was complained of, and some few red spots noticed previously on the neck and chest had gone; a warm bath was given at night and on Thursday, July 21st, some faint spots or flushed patches reappeared on the chest for a short time only, and the suspicion of measles hitherto entertained was over; the throat was slightly red with full tonsils but no external glandular tenderness or enlargement, the tongue was clean and the appetite good. The girl was kept to her room but not in bed, the nurse was out for a time every day and had the use of another room near her patient until they could both be sent away. This light attack of illness was attributed to German measles, *rötheln* or *rubella*, so often put down to chill or stomach disturbance; and sometimes, unfortunately, "called epidemic roseola."

The nurse a week after first attendance on her patient, on Monday, July 25th, felt sick and ill on rising, but her duties being light she was able to attend to them and felt better on Tuesday morning when she eat a good breakfast; in the afternoon she again felt tired and had some headache, she was restless in the night with sudden vomiting and high fever. In the morning, July 27th, a widely diffused rash, at first perhaps brightest on the face, renewed the idea of German measles; but the increased soreness of the throat and the full and well-marked rash before noon left no doubt that it was true scarlet fever. The tongue was furred with no special redness, the soft palate was reddened and the throat quite characteristic; the glands at the angle of the jaw could be felt but the superficial cervical glands were not perceptibly enlarged.

Next morning both patients were removed to special hospitals. The younger one still had some fulness of the tonsils which were smooth and red, the deep lymphatic glands were perceptible

to the touch, but no other signs of a recent scarlet fever existed; it was not till after three weeks, August 8th, that desquamation of the fingers unmistakably confirmed the real nature of the original seizure. The nurse did not escape so easily but eventually recovered complete health.

The elder patient showed some variation from the usual prodromal symptoms of scarlet fever; if the initial fever is to be dated from Monday morning, six and a half days had passed from her first exposure to infection, if from Tuesday evening eight days; but she might have received the infection at any part of the whole period, for her exposure was continuous, and it is only after complete separation from a limited exposure to the infecting source that a definite incubation period can be ascertained. In this case my medical friend in attendance reminded me that the short incubation here, which I consider to be inconsistent with rubella, is said by one writer to have occurred in what is termed epidemic roseola, just as our first and earliest authority on the intervals for incubation, Dr. Gregory, of the old Small-pox Hospital, had stated that varicella might occur after so short an interval as four days. The incubation period of rubella is seldom less and often more than that of measles; it differs from measles in having no prodromal fever or catarrh except the slight malaise felt by some persons the day before the rash; it differs from scarlet fever in the subsidence of fever as soon as the rash appears and completely before it has faded. By this test it soon became clear that the nurse's rash was not rubella, for the temperature was 102° when I saw her on the second day of the eruption, and 103° by night; it had subsided but very slowly the next morning, July 28th, when she was removed to a scarlet fever hospital.

The rash of rubella, except at its first appearance in the face or neck, is more like that of scarlet fever than of measles; especially at one time, early on the second day, when scattered red spots appeared on the legs and arms, and on the back of the hands and feet; this is often seen on the limbs when the scarlet fever rash is extending before the diffused redness of scarlet fever occupies the whole surface; something of this kind had been noticed on the nurse's hands and arms in this case before my visit. A further aid to diagnosis is found in the signs afforded by the cervical glands. Enlargement of the small superficial glands is not of itself sufficient to indicate rubella; a similar enlargement is found in measles. A somewhat different change,

affecting many of the smaller glands, occurs from whooping-cough, and even in catarrh, and another in eczema of the ear; any irritation of the scalp, as that produced by pediculi, or by some spots of varicella, and by various skin diseases in children out of health affect the superficial glands. In the latter cases a few of these glands, the size of a split pea, are to be felt or seen behind the ear; in measles such glandular enlargements are more prominent, not only at the back of the neck, but along the posterior border of the sterno-mastoid, even before the rash is out; in *rubella* such glands always accompany the eruption, and are even more prominent.

The deeper lymphatic glands at the angle of the jaws are always noticeable in scarlet fever; they may sometimes be rather full in catarrhal sore throat, and in both rubeola and rubella, also in tonsillitis and influenza; but it is only in scarlet fever and diphtheria that they present a peculiar tension and fulness; this is often exaggerated to a high degree in the more severe cases, and may lead to suppuration in or around them. These glands are always to be felt in scarlet fever, and the superficial smaller ones but seldom, and then from the accidental causes mentioned, so that their absence in the early stages of eruption almost excludes the two rubeoid exanths.

A later and conclusive distinction, when found, of scarlet fever and diphtheria from measles and rubella is albuminuria. So rare is this as a sequela of measles that only once after exceptional chill in a convalescent, and once as a very temporary symptom after anuria at the crisis, have I ever known it to occur; after or with rubella, never. After slight sore throat and short febrile disturbance with no signs of desquamation, albuminuria more frequently points to a passed attack of diphtheria than of scarlet fever. The girl from whom this nurse caught scarlet fever had no albuminuria on the eighth or ninth day after her seizure. When I saw her the slightly red throat and smooth fulness of the tonsil with perceptible glandular enlargement, the latter not more than is often seen with catarrh, were the only signs of her illness. We are often asked in doubtful cases to decide if scarlet fever could recently have passed over with so little left to show for it. Until three weeks are over it is better to maintain the doubt, when if neither albuminuria or any sign of desquamation are discoverable we may disallow it. Even then it is better that the convalescent should continue to reside

with friends, or in the care of members of their own family, for another three weeks; or until all possibility of conveying, under altered conditions, any infection to the susceptible is completely over.

A CLINICAL LECTURE

ON

THE RADICAL CURE OF HERNIA.

Delivered at St. Bartholomew's Hospital, Dec. 14, 1892,

By H. T. BUTLIN, F.R.C.S.,

Surgeon to the Hospital.

GENTLEMEN,—I have for some time been intending to devote an early lecture to the radical cure of hernia, for the reason that I have discovered a feeling in the minds of a certain number of students at least against the operation. Indeed, whenever, on the occurrence of a case in the out-patient department, I put the question of the radical cure of hernia before you, I found that the sentiment against it was almost unanimous. I dare say that at that time a good many of you, hearing me speak so persistently in favour of it, thought that my practice was not in accordance with my teaching, because I scarcely ever performed the operation. Considering, however, that a case for radical cure occupies a bed for a month or a longer period, you will be able to appreciate the fact that when I was assistant surgeon and in charge of a special department, the operation was only rarely possible for me. Wondering why there has been so strong a feeling against the operation, I have attributed it in my own mind to two causes. In the first place this Hospital is conservative; I do not mean conservative in the sense of taking up an adverse attitude to everything that is new because it is new, but we like to consider a matter very long and carefully before committing ourselves to it. In the second place the older operations for the radical cure of hernia were much more dangerous and much less successful than those now performed, and the knowledge of this may have had some share in prejudicing your minds against any operation for the radical cure.

Now, however, there are signs that the operation is growing into favour here in the Hospital. Only the other day I took up our Hospital statistics, and I found that in the last ten years this operation has been performed fifty times. I am not now speak-

ing of the radical cure during operation for *strangulated* hernia. I take it that if such a case is favourable, most of us would do what we could to cure the disease in that way. Well, then, I have found that fifty of these operations have been performed in ten years—or rather in eight years, for not one of them was performed during the first two of the ten years. During the first five years, fourteen only, and during the last five thirty-six have been performed, and I feel quite sure that during the present year that average will be very largely exceeded.

The objections made against the operation may be divided into three heads:—1st, the danger of the operation; 2nd, the assumption that it is not very successful; and, 3rd, that it is contrary to the "principles of surgery." I shall deal with each of these objections in turn.

And first, with regard to the danger of the operation; it is said that it is likely to be followed by peritonitis, by internal hæmorrhage, and by attacks of orchitis. Of course, when you open the peritoneal cavity and take out some of its contents and return others into the abdomen, there is always some danger of peritonitis. This danger has, however, been exaggerated, and as a matter of fact is not great. If you look at our own statistics you find that only three of the fifty patients, treated by operation, died, which means a mortality of six per cent. And if the operation were more frequently performed here, or suppose one surgeon performed a large number of these operations, the mortality would probably be very largely diminished. This is the case with some foreign surgeons, among them Bassini of Padua, and Lucas-Championnière of Paris, who perform the operation more often than we do, and whose mortality is very small indeed. There is this, however, to be said, that when the statistics of mortality are drawn up, they should not be drawn up by the surgeon himself, who is naturally apt to attribute certain deaths to some other cause than the operation. These statistics should be drawn up, I will not say by an enemy, but at any rate by some impartial person. When I see these small mortalities, as 275 more or less considerable operations with only two deaths, I do wonder whether some of the patients did not die while still under treatment of "some other cause."

Now, with respect to the want of success alleged against it, all I can say is that at the present time if you look through the statistics of the best directed

operations, and through the accounts of cases where it has been performed a large number of times by the same individual, the success will appear to be very considerable indeed. It is very difficult to put it down in anything like figures; you may have a patient cured absolutely of his disease, or you may leave him with something behind, which, however, does not prevent the cure from being in a measure a real cure. The real success in this operation would be not far short of eighty per cent.—a very large success. It is only ten years since the last edition of Holmes' "System of Surgery" appeared, the article on Hernia in which was written by Mr. Birkett, and he heads the paragraph dealing with this subject, the "So-called" Radical Cure of Hernia, so that he at least had no confidence in it, but I find that almost the only operations practised were those of Wutzer and of Wood, which were sometimes successful in their hands, but in the hands of other people they fell far short of success. Even when Mr. Wood wrote them, it was very difficult to follow the steps of his operation, and very difficult to practise it. But later operations are much easier to perform, and give a much larger measure of success.

The last objection is that these operations are "contrary to the principles of surgery." I used frequently to hear that said here, and I am not sure that it is not, even now, still said. I remember, too, that I used to be quite weighed down by the statement, although I was never quite clear what it meant. I suppose it means that the aim of the operation is not directed to remedy the defects or conditions on which hernia is supposed to depend. If an operation is performed frequently, if it is performed without much danger, if it is performed with a considerable proportion of success, and if it is "contrary to the principles of surgery," then I take it that we shall have to reconsider the principles of surgery. I am afraid that after this you will look on me as a kind of surgical sceptic. But after all, what are the principles of surgery, and who made them? The principles of surgery, so far as I know then, are theories which have been deduced from facts or the observation of facts. Well, the facts may not be facts, or they may have been incorrectly observed, so that the premises from which the theories were deduced may be false; or the premises may be correct, but the deductions from them may have been incorrectly drawn; so that the principles of surgery are liable to err from various causes.

As to who made them, we here have helped to make the principles of surgery; and so, in all large schools of surgery, the principles are made by the men practising there, who draw up principles according to the teaching of the day. Do not misunderstand me. I do not mean that you are to have no principles in surgery, for it is absolutely necessary that you should have some, if only for the time being. Many of them hold good, and, I hope, will hold good till the end of time; but there are others which require revision from time to time, which are not of a lasting nature, and which being the "principles" of this year, may be regarded as absolutely false ten years hence.

Now what are the alternatives to performing the operation for radical cure? To begin with, a certain number of persons are cured by the application of a truss. But this very seldom happens under one or two years of steady application. The truss must be worn day and night; it must be made of proper material, must be of proper strength, properly fitted, properly adjusted. And if the hernia comes down, all the good that has been done may be undone; the neck of the sac is opened up again, and the whole treatment must be recommenced. Still there are cases, chiefly cases of young persons, in which the truss has proved effectual; and if people have an objection to operation on very young persons, it may be said to be a reasonable one until the truss has been tried. But then you have to deal with a large number of people with whom this treatment has never been successful, and other people with whom the hernia has come down later in life, and people who have the omentum fixed to the sac, in whom the hernia could not properly be got rid of in this way.

Supposing the cure by the truss fails, what do you offer to these people? He or she must wear a truss to the end of their lives, putting it on the first thing in the morning, and taking it off the last thing at night. You say that is not a very serious matter, and perhaps it is not, provided the patient is well-to-do. When the truss breaks or becomes useless a new one is put on, and, after all, it is only an inconvenience to people belonging to the upper classes. And it is just these classes that are least likely to suffer from strangulated hernia. But even these people, with the best made and the best fitted trusses, will tell you that they are by no means comfortable, and they are prevented doing many things which other persons of their age habitually do.

Suppose, on the other hand, the patient is poor, suppose he is not even one of the artizan class but one of those poor fellows that come to the hospital. Perhaps we give him some help, or he goes to an establishment like one of the truss societies, where by means of the names of subscribers and letters, he obtains a truss which he learns to manage very well. At the end of a few months it becomes weakened or gets out of order. He has to return to the truss society or to the hospital; he cannot afford to buy a truss, and then after a time he becomes weary of this search about for a truss, and he argues to himself that his rupture has not given him much trouble hitherto, and he will not wear a truss any longer, and thus the hernia becomes larger and larger, and (to say nothing of the danger) a matter of grave inconvenience; the hernia, in fact, becomes so large that patients have come here whose hernial sac contained more than half the intestinal contents of the abdomen. Such patients are rendered incapable of following arduous employment, and though absolutely independent before the hernia becomes so large, are afterwards either thrown on the parish or on the benevolence of charitable persons. From an economic point of view therefore, if hernia could be cured, a large amount of money might be saved to the nation or be saved to other charities. If these were the only things which could be charged against hernia, an operation for its cure would be fully justified. And I would almost venture to paraphrase the words of Scripture,—but I do so in no irreverent spirit—and say “a surgeon should take more pleasure in one patient cured by operation than in ninety-and-nine of those who keep their ruptures up by means of trusses.”

But there is much more than this. Consider what a very large number of cases of strangulated hernia we admit into this Hospital every year, the average is nearly fifty per annum, so that there have been 460 cases during the last ten years, and of these 119 proved fatal. I speak now of strangulated hernia alone, not of incarcerated or irreducible hernia, for I should swell the number of deaths if I took these into account. In the course of every year then, twelve persons die in this Hospital from strangulated hernia. If you want larger statistics, take those of the Registrar General for 1890, and from these you will find that 582 persons died in England of the results of hernia in that year, and the statistics for twenty-five years show that more than 10,700 people died of hernia in the United Kingdom. In considering therefore

the danger of the operation we must also consider the danger of the hernia itself.

In speaking of the success of the operation, I told you that from my own experience and from what other surgeons say, it may be taken for granted that the success in most cases is not the partial success it has been represented to be. In 1885 I operated on two boys, brothers, the sons of an officer in the Indian military service. They were both suffering from inguinal hernia, and had been treated for a long time by one of the most skilful men in the treatment of hernia, Mr. John Wood, without any success. They were unable to indulge in any of the sports proper to boys of their age, and it seemed impossible that they should ever become, as their father had intended, officers in the Army. I cut away the sac in each case, diminishing the size of the external ring. Neither of them has worn a truss since; at the end of two months they could take exercise, and finally could play cricket and football. One of them has already arrived at man's estate, and I hope soon to see him gazetted to the Indian Army. I operated on another patient two or three years ago, when I was obliged to remove the testicle which lay constantly in the canal, and which prevented him from wearing a truss or taking any active exercise. He was so completely cured by the operation that he has since that time never worn a truss, and has played football, cricket, and tennis. Both Bassini and Lucas-Championnière give accounts of young men cured by operation so thoroughly that they were accepted as soldiers, and served their time in the Italian and French armies. [Here three working men, who had been cured and sent from the Hospital, and were now carrying on their ordinary occupations, were brought into the theatre and exhibited.]

With regard to the recurrence of the disease after long years when a patient has undergone an operation for radical cure, the same is true of patients who have been apparently cured by trusses. But if the first operation fails, I would sooner perform a second operation than allow the patient to go away without an attempt to cure him finally.

Now with regard to the choice of patients—the picking out of the best patients for operation. For myself, I have taken *any* patient that came to the Hospital, and I mean to do the same thing for some considerable time at all events, in order to see how far one can go with the operation. I think, however, I may lay down three general rules: 1st, the young are better than the old; 2nd, small hernias

are better than large ones; 3rd, a patient suffering from single is better than a patient suffering from double hernia. Everyone will agree to the two first propositions: that a young patient is more fitted for operation than an old one, and that it is better to operate on a small hernia than a large one; and as to the third proposition, I dare say a good many will think it is so obvious that it need not have been stated. If the patient is suffering from double hernia, he will require a double operation either at the same time or at two different times. Double operation means double danger, double toil, double trouble—double toil to the surgeon in making the wounds; double trouble to the patient in bearing and in healing them. But it was not of that I was thinking: it was of the final result of the operation, of the prospect of cure. A patient who has a double hernia is generally regarded as a person weaker than others, and the double hernia is supposed to be an indication of constitutional as well as local weakness. The chance of ultimate success in his case is therefore probably not so good as in the case of a man suffering from single hernia.

It will be observed that I have said nothing of the choice of operation, and the reasons for that are twofold; in the first place, the time allotted to the lecture is well-nigh spent, and in the second place, I hope at the end of a year or later, to give another lecture on the same subject, taking up all those points, telling you what operations I have performed in the year for the radical cure of hernia, what difficulties have been met with, and how those difficulties have been encountered, and I hope, overcome; and I expect to be able to show you a much larger number of patients, and thus to be able to exhibit results which may serve to encourage you to perform an operation, which I believe to be quite as justifiable as the majority of the operations which we perform.

For Catarrh of the Bladder. (Mosetig, *L'Union Médicale*):

| | | | |
|----------------|-----|-----|--------|
| R. Iodoformi | ... | ... | 3iiss |
| Glycerini | ... | ... | 3x |
| Aq. Destillat. | ... | ... | 3iiss |
| Gum. Trag. | ... | ... | gr. iv |

Wash out bladder with warm distilled water daily; then use for an injection one pint of hot water, to which one tablespoonful of the above has been added.

A CLINICAL LECTURE ON NERVOUS DERANGEMENTS CONNECTED WITH MENSTRUAL DISORDERS.

Delivered in the Mater Misericordiae Hospital, Dublin,
Dec. 3rd, 1892.

By **T. MORE MADDEN, M.D., F.R.O.S., Edin.,**
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GENTLEMEN,—The special prevalence of hysterical complaints amongst gynaecological patients being well exemplified in our wards, I shall avail myself of this occasion to put before you a brief summary of my present clinical experience and former observations concerning some of the cerebro-nervous complications or accompaniments of disease peculiar to women.

Amongst the cases of this kind here brought under your notice, I may enumerate one of hysterio-epilepsy connected with complete amenorrhœa, and occurring in a girl of 16 in St. Monica's Ward; a second of hysterical paralysis of similar origin in the same ward; a third case of well-marked hysteria in a girl, aged 18, suffering from oöphoritis in St. Agatha's Ward, where we had in an adjoining bed a fourth instance of aggravated hysteria in a married woman, aged 32, suffering from dysmenorrhœa and vaginismus. Besides these, in our extern-department we had within the last week other instances of nervous disturbance accompanying menstrual irregularities in middle life, as well as in youth, the former including two cases of hysterical pseudocyesis at the menopause. I need not dwell further on the details of cases which you have had an opportunity of noting for yourselves, but shall pass on to those points on which it is most important that you should be well informed concerning the general clinical history and treatment of such disorders.

With regard to the cases just referred to, in which the nervous derangement was associated with irregularities of the earlier menstrual periods, there can be no question that the occurrence of such symptoms about the epoch of female puberty is generally directly consequent on some disturbance of the complex structural or functional changes then in process in the reproductive system, the predominant influence of which is manifest at every stage of woman's life until the termination of the period within which utero-gestation is possible. The commencement of menstruation is marked by a sudden and complete revolution in the female's mental and physical constitution, whilst at each succeeding monthly ovulation there is a

coincident recurrence of constitutional and nervous disturbance acting on the general economy through the wide-spread ramifications of the vaso-motor and sympathetic systems. And, although when that function has become regularly established and is normal in every respect, the accompanying sympathetic derangement may be so slight as to escape observation; this is seldom if ever the case at the inception of menstruation. For some time previously to the first catamenial flow the patient usually complains of a sense of general *malaise*, and not infrequently becomes more or less irritable, nervous, or hysterical, and prone to prove the subject of various self-created morbid impressions or fancied symptoms of disease. Under such circumstances, under the guise of nearly every complaint that may affect a girl on the approach of puberty, and whether the trouble be spinal, cardiac, or pulmonary, more especially if it take the forms of any of those obscure forms of disease, such as hystero-epilepsy and hysterical lethargy which are not uncommon at that age, and for which no physical cause is apparent or discoverable, the physician may frequently be able to detect the impress of hysteria or some other form of sympathetic nervous derangement connected with, or originating from, menstrual disorder.

At the same time, however, I need hardly remind you that whilst thus prepared to meet with the protean forms of hysteria under such circumstances, simulating and complicating every variety of disease, you should be no less forewarned and cautious with regard to the graver error of ignoring or misinterpreting the evidences of actual physical disease in any patient, however hysterical she may be.

In this connection, I should also warn you against falling into the too prevalent idea that because a case is either wholly or chiefly hysterical, it may therefore be dismissed as undeserving of any serious consideration or care. I would urge you to regard hysteria as a complaint, in the great majority of cases, symptomatic of morbid conditions, calling for that careful investigation and treatment by which alone the primary disease and the resulting nervous disorder may be reached and removed. Thus, for instance, even the ordinary hysterical paroxysm, so commonly observed in early menstrual life, and usually regarded as too trivial to require any special medical care, is occasionally consequent on uterine tubal or ovarian disease or irritation, which, if ignored, may, as shown in some cases I purpose to bring before you, not impossibly thus eventuate in the gravest forms of cerebro-nervous disease, viz., epilepsy and insanity.

Diagnosis.—The differentiation of hysteria from the diseases which it counterfeits or with which it may be complicated, is oftentimes one of the most

difficult of the problems which come before us in gynecological practice, inasmuch as in such cases the characteristic nervous symptoms, by the development of which the true nature of the case generally becomes eventually manifest, may remain in abeyance or unrecognized for a protracted period; whilst at a later stage, on the other hand, they may so predominate as to overshadow and obscure all the physical evidences of their local causes. In such instances, however, hysterical may be distinguished from actual disease by the general aspect and condition of the patient; her increased nervous susceptibility, neurasthenia, mental excitability and irritability of temper, perverted or altered moral disposition and tone, diminution of inhibitory nerve force, impairment of volition, and mental disturbances in some instances to the extent of actual delusions. These cerebro-nervous complications are more frequently associated with either amenorrhœa or with dysmenorrhœal troubles, than with any form of menorrhagia or metrorrhagia.

The Voice in Hysteria.—As a general indication of hysterical disease, especially in amenorrhœal cases, the changed character of the patient's voice may be mentioned. This alteration consists in a loss of that peculiar softness and melody which distinguish the female from the male voice. In hysteria the patient's intonation either becomes more rough and masculine than normal, or else becomes more shrill and piercing or metallic than usual, as well as more rapid in the sequence of its modulations. The hysterical voice is not easily described, but once recognised it is, I believe, an unmistakable evidence of nervous functional disturbance consequent on some derangement of the utero-ovarian functions.

Hysterical Insanity.—Amongst the cases before referred to under clinical observation in this Hospital was one illustrating that intimate connection between physical and mental sanity which, although generally ignored by alienists, is most obvious to those engaged in gynecological practice, in which utero-ovarian irritation and menstrual irregularities, more especially amenorrhœa are frequently found conjoined with cerebro-nervous complaints. The mental affections thus associated with disordered menstruation or chronic peri-uterine and sexual irritation are usually characterised by exaggerated nervous susceptibility, intense egoism, manifested in the absorption of the patient's mind on the symptoms of her fancied disease, mental excitability, and extreme irritability of mind and temper, or perversion of the moral faculties rather than any tangible delusions of the intellectual powers. The latter are by no means infrequent, however, in cases of suppressed menstruation.

The latter was exemplified here some months ago in the case of a girl, aged 23, under treatment in the next ward, where she was admitted for complete amenorrhœa,

which, on examination, proved consequent on congenital occlusion of the vagina. Besides this she was subject to periodic accessions of mental excitement, and almost maniacal irritability of temper recurring at regular intervals, which subsided completely on the operative treatment of the occlusion and cure of the menstrual retention.

A somewhat similar case, in which, however, the cause of the menstrual disorder, as well as its method of cure, were different, although the result was the same, was recorded many years ago by Pinel:—

A girl suffering from insanity was placed under his care shortly before the ordinary age of puberty, which passed over without the occurrence of the usual changes connected with this period. After a considerable lapse of years, however, one day on rising from bed she ran and embraced her mother exclaiming "I am well." The catamenia had flowed for the first time and her reason was restored. Both the mental and reproductive system thenceforth permanently resuming their normal functional conditions.

The increase of insanity amongst women in these countries of late years is, as I have elsewhere observed, a matter of the gravest social, as well as medical interest, and as the many cases such as those just referred to, which have come within my own observation as well as that of others, are sufficient to show, should particularly concern those who are the usual medical advisers of women in their special troubles. Cerebral disease is by no means generally traceable in cases of insanity on pathological investigation, and it appears to me probable that in a large proportion of female patients in our asylums the deranged mental condition is connected with either disordered menstruation, or with ovarian and tubal irritation, or with puerperal causes affecting the vascular condition and functional activity of the brain; inasmuch as by the recognition and removal of one or other of these causes I have in more than one instance been successful in restoring the mental as well as the physical health of patients previously restrained in lunatic asylums. Such cases are by no means singular in their causes and symptoms.

The general non-recognition of utero-ovarian disorders amongst the insane in lunatic asylums is easily understood; there is commonly amongst those suffering from mental disease a peculiar insensibility to physical suffering, or analgesia, caused by impaired nutrition of the nervous centres and diminished vital action of the nerves of sensation, and therefore the usual evidences of disease do not disclose themselves in their ordinary course. Under such circumstances, no complaint of uterine disorders being made by the patient, these diseases may unsuspectedly run their course as long as existence endures.

Hysterical Lethargy or Trance.—The cerebro-nervous and hysterical evidences of utero-ovarian disease or irritation not infrequently also manifest themselves by diminished nervous activity and general or local anæsthesia, as well as by the opposite condition. Perhaps the most remarkable

illustration of this fact is afforded by hysterical trance or cataphora, in which the ordinary phenomena of vitality are suspended by a morbid condition, apparently indistinguishable in some instances from death. A brief account of some of the instances of lethargy of this character that have come within my experience, will perhaps best serve to illustrate the general course of these interesting cases.*

The first of the following cases is an instance of so-called hysterical trance.

A young lady, Miss R—, just arrived at puberty, of a hysterical temperament, but otherwise apparently healthy, though as I afterwards ascertained suffering from dysmenorrhœa, went into her room after luncheon to make some change of dress. A few minutes afterwards she was found lying on her bed in a profound sleep from which she could not be wakened. When I first saw her, twenty-four hours later, she was then sleeping tranquilly, the decubitus being dorsal, respiration scarcely perceptible, pulse 70, and extremely small. Her face was pallid, lids motionless, and the extremities very cold. At this moment, so deathlike was her aspect that a casual observer might have doubted the possibility of the vital spark still lingering in that apparently inanimate frame on which no external stimulus seemed to produce any sensorial impression with the exception, that the pupils were normal and responded to light. Sinapisms were applied over the heart and to the legs where they were left on until vesication was occasioned without causing any evidence of pain. Faradisation was also resorted to without any effect. In this state she remained from the evening of the 31st of December until the afternoon of the 3rd of January, when the pulse became completely imperceptible, the surface of the body was very cold, the respiratory movements apparently ceased, and her condition was to all outward appearance indistinguishable from death. Under the influence of repeated hypodermic injections of sulphuric ether and other remedies; however, she rallied somewhat, and her pulse and temperature again improved. But she still slept on until the morning of the 9th, when she suddenly woke up, and to the astonishment of those about her she called for her clothes which had been removed from their ordinary place and wanted to come down to breakfast, without the least consciousness of what had happened. Her recovery I may add was rapid and complete.

In the second instance of the same kind that I have seen, the patient, after a lethargic sleep of twenty-seven days, recovered consciousness for a few hours, and then relapsed into her former comatose condition, in which she died.

In another case of hysterical lethargy in a young lady under my care, the trance lasted for seventy hours, during which the flickering vital spark was only preserved from extinction by the involuntary action of the spinal and nervous centres. In this instance the patient finally recovered.

One of the last instances of profound lethargy that have come within my observation occurred in the Mater Misericordiæ Hospital, in the case of a young woman under the care of my colleague, Dr. Boyd. In that instance, despite all that medical skill could suggest or unremitting attention could do, it was found impossible to arouse the patient from the apparently hysterical lethargic sleep in which she ultimately sank and died.

* Fuller details may be found in former papers of mine on the subject in the "Dublin Medical Journal," and "Transactions of the Royal Academy of Medicine."

I have referred to the foregoing cases occurring in one physician's experience, as disproving the general opinion that hysterical lethargy or trance are so rarely met with as to be of little medical importance. For my own part I have no doubt that these conditions are of far more frequent occurrence and greater gravity than is generally supposed; and that in women they are occasionally connected with arrested menstruation. Moreover, in some cases the popularly relied-on ordinary signs of death are occasionally so exactly counterfeited, that there is good reason for fearing the awful probability of premature interment under such circumstances in many instances.

Hystero-epilepsy.—Epileptiform disease is unquestionably most frequently observed in women of a hysterical temperament, and, as evinced in an instance of this kind in the adjoining ward, is then generally associated with some derangement of the utero-ovarian system. In those cases of this kind with what we are more especially familiar in gynecological practice or hystero-epilepsy, the convulsive seizures are apparently indistinguishable from ordinary epilepsy, from which, however, they may generally be distinguished by Charcot's test as well as by the previous history and physical condition of the patient. Within the last few years several instances of hystero-epilepsy have come under my observation in this Hospital, and in most of these the influence of uterine displacements or flexions was by no means so apparent as is held to be the case by Dr. Graily Hewitt and others.

Mental delusions connected with hystero-epilepsy.—Amongst the symptoms of hysterical hyperæsthesia which often usher in epileptiform disease in women, Morel, who is copied by other more recent writers, mentions "delusions on the subject of health, unjust complaints, recriminations without foundation, and decided sexual tendencies," as facts which should awaken our solicitude. These hysterical symptoms, however, are I believe still more marked at the moment that consciousness returns after an epileptic seizure, when the patient slowly and indistinctly begins to remember something that may have happened immediately before, or even during, the paroxysm. Occasionally, there is then a curious interblending of the patient's recollection of her real and fancied condition. In this condition the phenomena of the pre-epileptic aura may come into startling prominence, and be insisted on as of actual occurrence; and in that way the illusions which are consequent on hysterical epilepsy may possibly become of serious medico-legal interest. Thus, in more than one well known instance, charges of assault on females which have puzzled the ingenuity of detectives, and taxed the imagination of journalists, might perhaps have been better elucidated by a physician conversant with the post-epileptic delusions of hysterical women.

Hysterical paralysis.—The nervous symptoms consequent on utero-ovarian irritation or functional disturbance, may also be manifested in the simula-

tion of every form of paralysis, from the most trivial loss of power to complete paraplegia.

Of the latter character was the case of a girl, aged 19, who had never menstruated, and who when I first saw her had been confined to bed for nearly eighteen months with apparent complete loss of power of the lower extremities. During this period she had been actively treated by several practitioners by whom she had been alternately submitted to Faradisation, the various nerve tonics, blistering, cold and hot baths, and douches as well as ultimately being enclosed in a plaster jacket, to remedy the supposed spinal cause of her condition. None of these remedies, however, proved of the smallest use until after an interval of nearly two years from the commencement of the attack, her courses for the first time made their appearance and from that date she rapidly regained her former health and strength.

General treatment of hysterical disorders.—It would be impossible within the limits of this lecture to put before you anything more than a mere outline of those general principles which may guide you hereafter in the treatment of the more common phases of hysterical disease. In such cases, then, your primary object should be the removal, by either local or constitutional treatment, of any uterine, ovarian, or tubal disease, or the rectification of any displacement, of which the nervous disorder may be symptomatic. At the same time in the majority of such cases local treatment is uncalled for unless for the purpose of rectifying some well-marked displacement of either the uterus or of the ovaries. Until general measures have failed after a fair trial, local treatment should not be precipitately resorted to.

Foremost amongst the constitutional remedies by which you may thus hope to allay the abnormal nervous susceptibility, or perverted molecular activity of the nerve centres, are the special nerve sedatives and tonics, such as the various bromides or valerianates of quinine, zinc, and iron, and above all ammoniated tincture of valerian, which you have here seen administered in full doses for that purpose. In dealing with my hysterical patients I comparatively seldom find it necessary in the way of medicine to prescribe anything, such as nerve sedatives or tonics; to the general exclusion, under such circumstances, from my wards (save in exceptional cases) of all those narcotics and hypnotics, such as morphia, chloral urethane, chloralamide cocaine, and sulphonal,—with regard to the long continued use of which latter drug von Montyel well says:—"le sulphonal n'est pas un médicament, mais un poison." I desire to impress the general unsuitability of such narcotics and hypnotics in these instances on your minds, inasmuch as to their employment too many hysterical patients become habituated, with imminent risk of gradually increasing cerebro-nervous disturbance, insomnia, and physical and mental prostration. Hence at the present day one of your duties in dealing with a hysterical woman should be to ascertain whether this slow poisoning hypnotic

drug habit complicates her symptoms. If this be the case you must then only place its dangers clearly before her, and endeavour to appeal to her reason, and so if possible induce her to break that spell, notwithstanding the immediate distress so doing may and must for a short time entail. Otherwise it matters little what treatment you adopt, as it will be in vain.

The majority of hysterical cases occur in anæmic or chlorotic patients suffering from amenorrhœa or dysmenorrhœa, and under such circumstances one or other of those popular ferruginous compounds, such as Fellows' syrup of the hypophosphates or Fletcher's syrup of the hydrobromates, may be generally prescribed with advantage, whilst if the position of the patient be such as to admit it, a trial may be recommended of a visit to some foreign chalybeate spa so as to conjoin the benefits of change of climate, scene, occupation, and habits of living with those of the mineral water prescribed.

In conclusion, no cases so much demand the exercise of the highest qualities of the physician as the treatment of the nervous and mental complications of organic disease or functional derangement of the female reproductive organization. In such instances the gynæcologist must rise above a narrow specialism. He must primarily deal with the local disease, displacement, or functional disorder of which the cerebro-nervous disturbance may be a result. But in so doing he must be no less sedulous to avoid as far as possible increasing by any topical treatment that is not absolutely indispensable the existing local hyperæsthesia and the exaggerated attention already fixed on this by the patient in the great majority of cases.

Moreover, in order to correct the perverted mental conditions which have been alluded to in this lecture, you will find it your duty in most instances to strive to act on the moral as well as on the physical constitution of your patients, by insisting on healthy occupation of mind and body, and to fit the latter for this by appropriate remedies indicated by the special exigencies of each case. Thus, if the nervous disturbance be consequent on disordered menstruation, this must, if possible, be restored to the normal functional activity. If unmistakably it results from undue or premature stimulation of the sexual functions then you may be bound to point out the physical and moral ill consequences of such abuses. Finally, in many of the cases of cerebro-nervous disorder that will probably hereafter come before you in gynæcological practice, and in which you may find it necessary to act as the moral counsellors as well as the medical attendants of your patients, you may perhaps best sum up your advice in the words of the old Salernitan physician:—

"Si tibi deficiunt medici; medici tibi fiant
Hæc tria—mens lata, requies, moderata dieta."

A CLINICAL LECTURE

ON

SOME CASES OF PSORIASIS.

Delivered at the Middlesex Hospital, Dec. 15th, 1892,

By J. J. PRINGLE, M.B., F.R.O.P.,

Physician to the Skin Department, and Assistant Physician to the Middlesex Hospital; Lecturer on Practical Medicine and Dermatology; Physician to the Scottish Corporation, etc.

GENTLEMEN,—I have selected the subject of Psoriasis for my remarks this morning, first, because Psoriasis is a very common and definite disease; secondly, because it is one in which the importance of well-directed treatment is paramount, and lastly, because in spite of its being so common and so definite a disease, mistakes are frequently made as regards its nature and diagnosis.

I have here this morning several cases of Psoriasis to illustrate its main features, so that you may familiarize yourselves with its appearances in its different forms and phases.

This case (No. 1), a young man, æt. 19, is a typical example of Psoriasis, presenting characteristic lesions in the localities specially affected by it.

These characteristic lesions are papulo-squames, that is to say, papules covered with scales; and their favourite situations are, as in this case, the tips of the elbows, and fronts of the knees. He tells us that he has suffered from Psoriasis ever since he can remember, and that his parents attributed it to vaccination. I am inclined to think that his memory has played him false as the occurrence of the disease in children under five years of age is very exceptional. Nor do I think that vaccination is likely to be responsible for the Psoriasis, although it may undoubtedly start from vaccination marks as from any other "*loci minoris resistentia*." You will notice that except for some patches on the dorsal surface of the hands, in addition to those already seen, there are no patches elsewhere on the body.

In this case (No. 2), a man, æt. 32, it is different. This is his second attack, his previous one having occurred two years ago. The lesions are similar in character to those in the first case, but they are not confined to the same localities; they exist not only on the backs of the elbows and fronts of the knees, but also on the exterior surfaces of the forearms and legs; they are also seen scattered over the back and the trunk. On examining his scalp we find that it presents much scaling, but there are no definitely demarcated patches on it. This is due to the fact that seborrhœa complicates the Psoriasis, masking its lesions and rendering them atypical. You will find that whenever Psoriasis occurs in seborrhœic sites,—that is to say, where the sebaceous glands are numerous—or in coarse-skinned seborrhœic patients—in whom there is superabundance and hyper-activity of these glands—it is very much modified.

This old man, æt. 60 (Case 3), came here some months ago afflicted with an almost universal Psoriasis. He is of seborrhœic habit, and the original trouble underwent inflammatory changes, resulting in its transformation to an eczematoid condition. This can still be seen in the patches which persist in the intergluteal fold, and at first sight the case might now easily be mistaken for eczema. If, how-

ever, you examine this patch carefully, you will see that the essential lesion is a papulo-squame, while the secondary changes present are the result of his constant scratching caused by the intense itching of the part. He has now quite recovered with the exception of one other characteristic patch on the back of the right elbow.

You hear him state that the itching is better. Neither of the other two cases have alluded to it, so we will inquire as to this. The first, who is the youngest man, never experiences any itching, the second man has it occasionally, the third man tells us that it was most troublesome to him. This brings me to a somewhat important point as regards this subjective symptom. As a rule when Psoriasis occurs in the young, it is unaccompanied by itching; in the old, the itching is often intolerable, and so we get these patches converted into weeping eczematoid surfaces as a result of the scratching—such a condition often leads to a wrong diagnosis. I believe that the itching in the old people is mainly due to degenerative changes in the peripheral nerves such as have been shown to exist in some cases of senile pruritus, and especially in pruritus of the vulva.

This lad (Case 4), 19 years of age, presents a very interesting feature. If you look at his back you will see several ringed patches, in the centre of which the skin is healthy; they consist of aggregations of raised papulo-squamous lesions arranged in circles and segments of circles to form a beautifully gyrate and circinate pattern. The borders of these figures are made up of discrete large papulo-squames, and I have observed the extension of the disease by the development outside the periphery of existing circles of those discrete lesions, not by the centrifugal extension, with central healing of existing circular patches. On this ground many people would consider it to be an eruption consequent on syphilis—and the point is one of occasional value, as I indicated to you in a syphilitic case of somewhat difficult diagnosis earlier in the forenoon—but there is positively no history or other evidence of syphilis. He came here four months ago with an almost universal Psoriasis. He told us that he had suffered from it off and on for seven years. He had been treated elsewhere as an out-patient, but with little success. We admitted him to hospital. On admission the limbs and body were literally covered with characteristic lesions; the scalp was severely affected, and there were even some patches on the face—a somewhat unusual condition. Before he goes I call your attention to the universal deep pigmentation of the body, and to the narrow bands of blanched white skin surrounding each patch of disease. The last condition is due to the chrysarobin used in the treatment, the former is due mainly to the arsenic with which he is being treated.

These cases are all instructive, as they teach us many of the main facts about Psoriasis.

In examining a case of skin disease there are two very important points, about which you must be systematic; and you should conduct your examination with a view to eliciting information on these two points.

(1) What is the primary characteristic eruptive element or lesion of the disease? and, as a corollary to this, what lesions are secondary or accidental? (2) What localities are primarily affected by these lesions?

The characteristic lesion of Psoriasis is the papulo-squame, a papule covered by adherent scales, these scales being of silvery whiteness

(especially when lightly scraped). If they are removed small red points are found beneath, which easily bleed. There is no serous discharge. The distribution of these lesions is very important. Their favourite sites are the backs of the elbows, fronts of the knees, extensor surfaces of the arms and legs. The scalp may be affected either alone or with the other parts, but for reasons which I have already explained, the disease is often not very definite in this locality. If, however, it spreads on to the forehead or neck the patches in these situations are usually quite definitely defined and typical. The next site as regards frequency is the trunk, and the præsternal and sacral regions are those most frequently attacked. A point of great importance is that Psoriasis almost never affects the palms or soles. It may, however, affect the nails. You will find the statement in books that when nails are affected by Psoriasis there will be a heaping up of the matrix with thickening and pushing back of the nails. I do not accept this description as correct in nearly all cases.

This woman (Case 5), who has been under my care for many years, on and off, for recurrences of Psoriasis, in each of which her nails have been involved, presents a very different condition, as you can see for yourselves; there is no heaping up of the matrix or thickening of the nails; on the contrary, there is atrophy of their ends, so that they break and split readily, and they are studded over with small black dots, a sign of malnutrition and atrophy, in marked contrast to the supposed characteristic hypertrophy.

The next point with which we have to concern ourselves is the differential diagnosis between Psoriasis and such skin lesions as syphilides, squamous eczema, lichen planus, pityriasis rosea, and ichthyosis, with which it is most likely to be confounded.

Syphilis.—There are certain papulo-squamous lesions which occur during the so-called secondary stage which closely resemble Psoriasis. The main points which aid us in differentiating between the two are—The characteristic appearance of the elementary lesions; in Psoriasis the scales are glistening, white and copious, in syphilis a dirty yellowish brown and not so abundant. The distribution: Psoriasis affects the extensor, syphilis the flexor surfaces of the limbs. As to itching, it is usually slight in syphilis, varying, as we have already seen in Psoriasis, with the age of the patient. In Psoriasis the lesions are uniform in type; in syphilis one finds lesions of other types, such as macules, papules, pustules, etc. Again, one would find other signs of syphilis, such as

sore throat, iritis, enlargement of lymphatic glands, etc. I warn you against relying on the information given by patients, as they may deceive you, intentionally or not; trust rather to the objective signs which present themselves to you, remembering that, in private practice it may be—nay, often is—mischievous in the extreme to ask direct questions as to “specific” history. Lastly, do not forget that the diseases may co-exist, or even alternate. I have at present under observation a patient who came first under my observation with typical Psoriasis. He contracted syphilis later, and the interesting point about the case is that when a syphilitic eruption appears the Psoriasis disappears, and *vice versa*. I have, on the other hand, another case, in which the characteristic lesions of true Psoriasis and those of true syphilis co-exist side by side. Until arsenic was given, as well as anti-syphilitic treatment, he made but little progress. Before leaving this point, let me remind you that the scaly patches often affecting the palms and soles in syphilis, and misnamed “palmar” or “plantar psoriasis,” have no relationship whatever with that disease.

Squamous Eczema.—What I have already said with reference to the way in which Psoriasis is modified by seborrhoea will explain the difficulty experienced in diagnosing this condition from Psoriasis. I will here content myself by stating my opinion that many cases diagnosed as chronic dry eczema, when situated in seborrhoeic situations (e.g., scalp, præsternal region) in old “gouty” people, are examples of Psoriasis.

Lichen Planus.—The characteristic lesion of this far-too-seldom recognised disease is a small, dry, angular papule with a shiny top and central slight depression, the characters of which are specially well seen when viewed by oblique light. They most commonly occur about the wrists, knees, and ankles, although they may occur at any point over the limbs and trunk. Lichen planus frequently attacks mucous membranes,—especially of the mouth, tongue, and glans penis—Psoriasis never does so. Lichen planus only exceptionally affects the scalp, while it is not rare on the palms and soles. The papules have a tendency to hypertrophy, especially on the leg, forming warty masses, and this condition is predisposed to by the presence of varicose veins. Itching is the rule rather than the exception in lichen, and lastly, the colour of the eruption, especially in chronic cases, a livid brownish purple, is very characteristic in certain instances.

This patient (Case 6), a girl aged 21, well illustrates the features of the disease. The fore-arms are almost covered with these papulo-squames, coalescing to form large composite plaques, and on the right ankle is a warty growth similar to what I have just described. You will see that the scaliness is but slight, and that the infiltration of the skin is excessive. Were it a case of Psoriasis, with such an amount of infiltration, there would be more scaliness. The livid brownish purple colour can be identified, but I must warn you that in certain circumstances the lesions of Psoriasis may also be deeply pigmented, viz., when they are of very old standing, and are situated below the knee, when there is varicosity of the veins of the part, and when arsenic has been freely administered.

Pityriasis Rosea.—This disease has only recently been recognised in this country. It is in my experience not rare, although its nature is seldom recognised. The diseases, with which it is usually confounded, are Psoriasis, syphilis, seborrhoea corporis (the lichen circumscribed of Willan), and tinea circinata. Its lesions resemble a very superficial Psoriasis, for which, in my experience, it is often mistaken. They consist of slightly raised pink papules, which spread at the periphery, to form circular or oval patches about the size of a thumb nail. Their long diameter always corresponds with that of the natural folds of the skin. They are accompanied with slight brawny desquamation. They, usually, first appear on the chest, then extend over the abdomen and back; spreading along arms and forearms to the wrist, where they stop, and more rarely down the legs to the ankles. They do not affect the face as a rule. The disease does not appear to be amenable to treatment, but runs a natural course, lasting usually about six weeks. Though occurring in epidemic form, it does not seem to be communicated from person to person.

Ichthyosis.—The history is sufficient, as ichthyosis is a congenital disease.

Before discussing treatment, I will just allude to the *etiology* of Psoriasis. I regard it as a constitutional—not a local—disease, and probably as a tropho-neurosis of central origin; first, because of its symmetry; secondly, because it frequently appears after shock or mental strain; thirdly, because of the extreme rapidity with which it often breaks out; fourthly, because of its frequent association with trophic joint changes, as had so cogently been argued of late by Besnier, Boudillon, and others of the Saint Louis School; and fifthly, because of its amenability to arsenic, a drug which certainly exerts a powerful, often deleterious influence on nerve centres. Without, in most instances, being able to assign a definite exciting cause, we can say that the most common predisposing

cause is heredity. After ichthyosis, it comes next in order of frequency as an hereditary skin disease. It has not been my experience to find true gout an exciting cause, in fact, I have only seen it and Psoriasis co-existing in two cases. The fact that my experience is derived in the main from hospital, not private practice, may perhaps, to some extent, explain the discrepancy of the view I hold, with that expressed by many authorities. Of course, one finds that many patients suffer from bilious attacks, lithæmia, oxaluria, diabetes, and other symptoms, constituting what are considered by some, as evidences of "suppressed gout." Articular affections, as I have mentioned, do often co-exist with Psoriasis, but they are similar to those occurring in tabes for example, and, in my opinion, are further evidence of the probable central nervous origin of the disease.

Now let us pass to the all-important question, the *treatment* of Psoriasis, and at the outset let me tell you that you must not judge by the results you see in out-patient practice, but from those obtained in private practice where directions given can be, and are, as a rule, carried out. Rational treatment must, in the main, be constitutional, and the drug which I believe to be the most important, not only in getting rid of present, but also in the prevention of further attacks, is arsenic. Unless, however, proper care is taken in its administration, it may be unsuccessful or even harmful. It is absolutely contra-indicated when there is any violent inflammation accompanying the Psoriasis, or any tendency for it to become generalised, and assume the characters of a diffuse exfoliative dermatitis. You should before commencing arsenic, make sure that your patient has no digestive trouble. If the bowels are regular, the tongue clean, and the digestion good, you may commence it; if not, however, direct your first treatment to obtaining these conditions, and to correcting any obvious errors of diet and regimen. You should begin with small doses to test the idiosyncrasy of the patient. I have no particular preference for any special preparation, although I generally order Liq. Arsenicalis, commencing with 2 or 3 minims per dose, three times a day. This should be taken after meals, with a very copious draught of water. The quantity may be gradually increased by one minim per dose every week. If ordered in this way it is very rare to find intolerance on the patient's part. I have frequently known delicate women take as much as 20 to 30 minims, three times a day, in this manner

and without inconvenience. Where the administration of the drug in pill form is more convenient, I order Arsenious Acid ($\text{gr. } \frac{1}{60}$), or the Arseniate of Soda ($\text{gr. } \frac{1}{12}$) to begin with, made up with a grain of sugar of milk, and a little compound tragacanth powder. When there are indications for combining arsenic with iodide of potassium and mercury, Donovan's solution may be advantageously prescribed, beginning with 10 minim doses, and if it is desirable to give it in an acid mixture, the Liquor Arsenici Hydrochlorici should be employed in the same doses as Fowler's solution.

The danger signals to be watched for in patients taking Arsenic, are, itching of the conjunctivæ, oedema of the eyelids, coryza, coated or red glazed tongue, pain after food, nausea, vomiting, and diarrhoea. Bronchitis also seems to me to be a frequent occurrence, not usually sufficiently emphasised. Should any of these occur, the dose must be diminished, or even the drug stopped.

Patients taking arsenic for any length of time, are liable to various other troubles. You are all familiar with the deep brown staining it produces in cured patches of Psoriasis, and with the diffuse brown pigmentation of the skin which occurs after its administration. Another phenomenon to which attention has been prominently called by Mr. Jonathan Hutchinson, is, that herpes zoster is apt to occur in these patients. I have had several opportunities of convincing myself of the accuracy of Mr. Hutchinson's observation, which has also been confirmed in a careful paper by Dr. Nielsen, of Copenhagen.

A more rare condition to which I drew attention, about eighteen months ago, is an hypertrophy of the epidermis of the palms and soles (keratosis), accompanied by local sweating, and the development of small warty prominences, many of which can be seen with a magnifying glass, to be round the orifices of the sweat ducts. Tenderness and pinkness of the palms and soles, with a little scaling, are comparatively of common occurrence.

As I said before, you must not give arsenic when the Psoriasis is complicated by great congestion or inflammation of the skin. In such a case I use iodide of potassium in large doses, as suggested by Professor Haslund of Copenhagen; and certainly the results are most excellent. I begin with 20 grains three times a day in some bitter infusion and gradually increase the dose to 1 drachm. I have met with no untoward results whatever as the result of this treatment, and the absence of the

production of "iodism" is very striking, although it finds a parallel in the results of the administration of big doses of iodides in true spasmodic asthma, which are often surprisingly efficacious. This therapeutic experience may, I think, be fairly invoked as an argument in favour of the "nervous" origin of Psoriasis.

I have only a limited experience of treatment with other drugs, such as carbolic acid, antimony, or oil of turpentine. Where I have used them the results have not been satisfactory.

Although I rely on the internal administration of arsenic and iodides mainly for a permanent cure of Psoriasis, I do not wish you to undervalue the importance of well-directed and vigorous external treatment for the removal of the disease in the first instance.

The patient should, where the disease is widespread, have night and morning a hot alkaline bath at a temperature of 96°–100° F.; from 3 to 4 ounces of carbonate of potash to 30 gallons of water will make the most generally suitable bath. He should remain in it from 20 minutes to half an hour, and be well rubbed with soft soap or some of the numerous medicated super-fatty soaps now in the market, and then dried with soft towels. This will remove the scales.

After this, an appropriate ointment should be well rubbed in. The principal drugs used are the tars and chrysarobin; pyrogallol acid being occasionally used.

The best preparation of tar is the oil of cade, which is unfortunately not in the British Pharmacopœia. It is of a less disagreeable odour, and is cleaner than other tarry preparations, such as the officinal pitch ointment, while certainly not less efficacious. I order it in the form of a simple ointment of a strength from ʒss to ʒij in an ounce of lano-vaseline, *i.e.*, equal parts of lanoline and vaseline.

In cases where the patient is under frequent and close observation I prefer chrysarobin; but in out-patient practice, where the patient will not come regularly, there is a risk of dermatitis from its use. It ought never to be used for the scalp or face. At first it is advisable to use a weak strength such as:—

R Chrysarobin ʒss
Lanolin.
Vaselin. aa ʒss

M Ft. unguent. Sig. To be well rubbed into the affected patches, night and morning, after a bath.

Later on, I frequently use the following formula:

R Chrysarobin ʒj
Ichthyol ʒss
Acid. Salicyl. gr. xx
Adipis
Lanolini aa ʒss

M Ft. unguent, of which the strength may be increased according to the tolerance of the patient.

I also order chrysarobin as a paint for reasons of cleanliness, *e.g.*:—

R Chrysarobin ʒj
Liq. Gutta-perchæ ʒj

And lately, I have had favourable experience of the same remedy, incorporated in Pick's *linimentum exsiccans*, the formula for which is as follows:—

R Gum Tragacanth 5 parts
Glycerine 5 parts
Distilled Water... .. 100 parts

The preparation is of the thickness of a paste and rapidly dries up, leaving a fine film adherent to the skin. Pyrogallol acid, although useful, is disagreeable, as it stains the skin and linen a deep brownish black colour. It ought only to be used where the patches are small, on account of the poisonous effect occasionally noticed when absorbed.

There are many other matters in regard to the management of cases of Psoriasis, and the remedies with which it may best be carried out, into which the time at my disposal does not permit me to enter. Let me, however, emphasise the point that whatever external remedies you employ, they should be persevered in till all trace of eruption is gone, and that a prolonged—albeit modified—arsenical treatment should be thereafter instituted. In this manner the risk of relapse is reduced to a minimum, and I believe that you will have reason to agree with me in thinking that the prognosis usually accorded to the disorder is altogether too gloomy.

For Erysipelas. (*La France Medicale*):

R Tannin ʒj
Camphor ʒj
Ether Sulphur. ʒj

M. Ft. pigment. To be applied to the affected part every three hours.

For Warty Growths. (*Bull. Gen. de Therapeutique*):

R Acid. Salicyl. 2 parts
Acid. Acetic. 30 parts

M. Ft. pigment. To be applied once a day by means of a glass brush.

CLINICAL NOTE.

(Specially reported for The Clinical Journal. Revised by the Author.)

By T. H. OPENSHAW, F.R.C.S.,
Assistant Surgeon to the London Hospital.

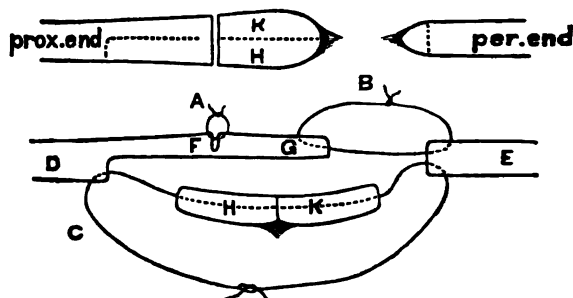
**** Case of wound of left ulnar nerve—complete paralysis—resection six months later—gradual complete return of sensation, and partial return of motion.**

A. E., a joiner, aged 28, was sent to me at the London Hospital, with the following history. On March 17th, 1892, he fell from a height and sustained a deep transverse wound one inch above the left internal condyle of the humerus. The wound was dressed and quickly healed, a long splint being applied to the arm. On removal of the splint, loss of sensation of the inner parts of the hand, and loss of power in the hand, were noticed. Gradually the hand wasted, and the fourth and fifth fingers became permanently flexed at the inter-phalangeal joints.

When seen on September 3rd, six months after the injury, the muscles of the little finger, the interossei, and the adductor muscles of the thumb were extremely wasted; the fourth and fifth fingers could not be extended voluntarily; there was complete loss of sensation with marked blueness and coldness over the little and half the ring fingers, and a corresponding part of the palm, back and front. In front of the wrist, at the inner side, there was an area the size of a florin, where the loss of sensation was partial. Sensation was apparently normal over the inner half of the forearm.

On September 5th, an incision, two inches long, was made above the inner elbow. The two ends of the divided ulnar nerve were found; the upper was very bulbous, the lower less so. They were separated from each other by the space of three-quarters of an inch. The ends were freshened, the bulbous end of the upper part being removed, the interval being thereby increased to nearly $1\frac{1}{2}$ inches. It was now found impossible to approximate the divided ends. I therefore bisected the last half inch of the upper end, and turned down a flap, the end of which was sutured to the peripheral part of the nerve. The bulbous end which I had removed

was divided longitudinally, and sutured so as to lie against the exposed freshened surface of the proximal part of the nerve which had been turned down.



A B C, sutures. D, proximal nerve. E, peripheral nerve. F G, flap turned down. H K, bisected halves of bulbous end.

The sutures were of chromicised catgut. The wound was sutured, dressed with iodoform, and healed by first intention, a long straight anterior splint being applied to the arm. The splint was removed on the 16th day, and the arm carried in a sling. He complained of some shooting pain down the arm.

On the 21st day after the operation sensation began to return in the palm and little finger.

On October 11th sensation was almost quite restored; the flexion of the fourth and fifth fingers was less; there was much less wasting of the hand muscles; the blueness and coldness had disappeared.

When discharged, November 4th, he had regained all sensation except over a small area along the palmar surface of the little finger, and power of motion was improving.

**** Note by Editor.**—We publish this Clinical Note as one bearing on the Lecture published in the *Clinical Journal* December 21st, 1892, by Mr. John Duncan, of Edinburgh, on "The Suture of Nerves after Injury."

For Ozæna. (*Munch. Med. Wochenschr.*):

R. Iodol.

Acid. Boric.

Acid. Tannic. āā 3ss

M. Ft. pulv. To be used as a snuff at first six times, then three times, a day.

To Check Vomiting. (*Times and Register*):

R. Menthol 3ss

Alcohol 3ss

Syrup 3iiss

M. One teaspoonful every hour.

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A CLINICAL LECTURE

ON

PLEURISY.

By THOMAS OLIVER, M.A., M.D., F.R.O.P.,

Physician to the Royal Infirmary, Newcastle-upon-Tyne.

THE term Pleurisy is an old one, having been used as far back as the time of Hippocrates, when it was employed to designate any severe pain that was felt in the side. In our day, when we use the word, we mean by it an inflammation of one or both pleuræ, which may be partial or general. Pain, though generally complained of, is not necessary to our conception of the word Pleurisy.

Pleurisy may be a primary affection, due to injury to the chest. It may be the result of exposure to cold. Sometimes it is secondary to other morbid conditions, *e.g.* altered states of the blood, as rheumatism or Bright's disease, or it is consequent upon tubercular disease of the lung, or a malignant growth in the mediastina.

It is to the primary form of Pleurisy that we will devote our attention—a lesion which is usually limited to one side of the chest, and which affects the basal rather than the upper portions of the lung, although no part of the covering of the lung is exempted. Some people exhibit a peculiar idiosyncrasy to inflammation of their serous membranes, and to the pleura in particular. Once inflammation of the covering of the lung has occurred, exudation from the distended vessels follows—the quantity and nature of which vary, so as to lend a peculiar character to the disease in every individual case. A small quantity of a thick adhesive fibrinous material is thrown out, and this spreads itself over the surface of the lung as a delicate layer, or it is thickly accumulated in places forming dense ridges, and to this form of Pleurisy, which is generally a painful one, the term “dry Pleurisy” is applied in contra-distinction to that more commonly met with, and known by the name of Pleurisy with effusion. Here the exuded material resembles the serum of the blood, and it is thrown out with varying rapidity, and in varying quantity, from a few ounces to several pints, within a few days from the commencement of the illness. The fluid accumulates in the posterior part of the chest, and at the base of the lung, and is usually unilateral. Where the pleural effusion is bilateral it is mostly secondary, and is to be regarded in the light of a hydrothorax—as part of a general dropsy, therefore—or as the local expression of a diathetic

taint. The fluid inside the chest, instead of being serous may be purulent, and whilst the term “empyema” is reserved for this form of Pleurisy, not a few interesting problems are connected with its presence, such as, for instance, whether the exudation has been purulent from the first, or whether it marks the later stage of what was apparently an ordinary serous effusion.

One of the earliest symptoms of Pleurisy is pain in the side, which is aggravated by deep breathing or by coughing. It is frequently extremely severe, and may be referred to any part of the chest wall. Accompanying the pain there is generally a rise of temperature, seldom above 102° to 103° , but the pyrexia, as a rule, is not of long duration. By the second week it is frequently found to have subsided, although in many cases a very slight rise of temperature lasts a few weeks longer. Before the onset of the Pleurisy, friends of the patient may have noticed that he was not looking quite so well as usual. A feeling of chilliness is complained of, or there may be several small rigors; but there is not as a rule anything like a severe and protracted rigor, such as ushers in pneumonia, and which, as a symptom, serves to differentiate pneumonia from Pleurisy. Cough may be present, but it is generally slight, and is restrained owing to the pain which it causes. There is no expectoration as a rule, and the amount of breathlessness experienced by patients is extremely variable. If the accumulation of fluid in the chest has been rapid, or if there is some concurrent pulmonary lesion, such as bronchitis, dyspnoea may be a very marked feature; but, on the other hand, if the effusion into the pleural cavity has been of slow development, there may be no complaint of shortness of breath at all.

We have seen that pain is one of the most prominent symptoms of Pleurisy, and yet a patient will come and seek advice for a stomach derangement; for example, whilst one side of his chest is filled with fluid, the patient stating that he has never experienced pain nor had the least difficulty of breathing. This occurred only a few months ago in a young man, who presented himself at this Infirmary suffering from dyspeptic symptoms, and from whose chest two days afterwards I drew off, and with success—the effusion not returning—nearly 10 pints of serum. In this case there was a normal temperature. The pyretic stage had been passed through without being recognized by the patient. Most of the cases with a low temperature do well under treatment. Given the case of a youth about whose family history there is some doubt, or in regard to whose personal health

immediately prior to this illness there is question, in whom the temperature is high, 104° – 105° , and has risen rapidly, and the constitutional disturbance is great, cough frequent, and attended by expectoration tinged with blood or by a free hæmoptysis, then, although all the symptoms and physical signs point to Pleurisy with effusion, we should express our opinion with caution; the Pleurisy under these circumstances is too frequently masking tubercular disease. Pleurisy at any time is not what I would regard as a very typical disease, but there are types, and the more that any particular case of Pleurisy deviates from these as shown by the severity of its symptoms, the rapidity of its development, the persistence of high temperature, and a tendency to linger into the months instead of weeks, then is there little likelihood of the patient making a satisfactory recovery from his illness.

We meet with cases of Pleurisy, therefore, in which there are, practically speaking, no symptoms. We should regard these cases of "latent Pleurisy" with a certain amount of suspicion, as many of them are undoubtedly tubercular. Cyanosis is occasionally noticed in Pleurisy with effusion: it is a grave symptom, indicating great embarrassment to respiration and circulation, and therefore requiring to be met by urgent treatment.

Of the physical signs of Pleurisy I should regard friction sound as the first to occur. Some regard an alteration of the percussion note as the first in order of precedence; but before there is anything like effusion into the chest capable of giving rise to dulness, there has been swelling and shedding of superficial cells of the pleura, so that the easy gliding movement of lung upon pleura becomes more or less jerky, and what had hitherto been a noiseless proceeding, owing to moisture lubricating the pleural surfaces, is now attended by a more or less rough or grating noise—the so-called friction sound. As the effusion is poured out the lung recedes. It is driven upwards and backwards, so that in cases where the effusion is excessive, the lung which at first retracted, owing to its own resiliency, now becomes compressed by the fluid, and will be found lying in the posterior part of the pleural cavity close to the spine at the level of the scapula. Fluid in the pleural cavity gives us a dull note on percussion—but this varies. Where the chest contains a large quantity of fluid there is never any doubt about the percussion note. It is absolutely dull, but we meet with cases every now and then where only very slight dulness is detected, and yet the chest may contain a pint or two of fluid. As the patient lies on his back, the subject, say, of a right-sided pleural effusion only, very slight dulness may be detected at the base of the lung in front, not extending even up to the nipple; but as the percussion is carried out into the axilla

it is noticed that the level of the dulness, as indicated by the note, gradually rises—reaching in the mid-axillary line several inches higher up than it did in front. The presence of a dull percussion note in the axillary region, and the fact that it reaches a higher level there than at any other part of the chest is to me one of the most valuable signs of pleural effusion. Although we are dealing with free fluid in the pleural cavity, and might expect to find this revealing itself by a water-level mark—viz., a horizontal line, experience is against this view during all stages of the illness until that one is reached where the effusion is excessive and the lung is almost completely compressed. The character of the percussion note elicited over the lung that has been displaced upwards will vary according to the amount of air it contains. The upper part of the front of the chest in cases of Pleurisy with effusion is sometimes extremely resonant. This, known as Skodaic resonance, has a character which is peculiarly its own. Where the effusion is great, and reaches up to the 3rd rib in front, it is no uncommon thing to detect on percussion in the neighbourhood of the sternoclavicular articulation a resonant note—high-pitched and rather tympanitic. Some have tried to detract from the value of this sign because it is said to occur in pneumonia just before hepatization occurs, but it is its persistence in a case where all below the 3rd rib is dull—absolutely dull on percussion and with no such elevation of temperature as we find in pneumonia—that causes us to regard it as a sign of pleural effusion. Skoda taught that the sound was due to diminished tension of the lung tissue owing to the diminution in the quantity of air which it contained. There is no mixing of the residual and tidal air. Relaxed alveolar walls and lessened air tension thus underlie the causation of the sound, for when air-containing organs are not sufficiently filled that their walls become tense, the sounds they give out on percussion are always more or less of a tympanitic character.

It is the general experience that where there is pleural effusion the circumference of that side of the chest is increased. It may measure one or one and a half inches more than the other. This is almost always the case, but it does not hold all through the duration of the illness in every instance. In not a few of my cases I have noticed this increased circumference get less, and that not from absorption of the fluid, but by increased compression of the lung, so that the side which contained even a large quantity of fluid measured less than the healthy side. This is not to be wondered at either when we consider that to the healthy lung is entrusted the full work of aerating the blood. By it, therefore, deeper inspiratory efforts are made.

The organ first to be displaced by excessive secretion of the pleura is the lung itself—this only takes place when the fluid is considerable and the elasticity of the lung is more or less destroyed. Following the lung in this respect come other organs, such as the heart and liver. It is the displacement of the heart, however, which calls for attention. It is no uncommon thing in excessive left pleural effusion to find the heart beating in the right chest as far out as the right nipple. This you will meet with time after time, and although in these cases there is frequently dyspnoea—there is nothing like the amount of breathlessness and disturbance to the circulation that at first sight might be expected. It is asserted by some that this displacement only occurs where the effusion is very great—the excessive fluid bodily pushing the heart to the right of the sternum. Others see in this beating of the heart in the right chest not so much a displacement of the whole organ as a very marked dilatation of the right ventricle, and they maintain that it is only this part of the heart which is seen and felt beating so far to the right of the sternum. The author of this theory considers that as the effusion continues to be poured out into the left pleural cavity the left ventricle becomes compressed—blood is therefore unable to pass out of the right heart with ease or in quantity, and the result is an over-distension of the right chamber of the heart. This, however, is not a sufficient explanation of all the facts.

The two theories just advanced presuppose the existence of excessive effusion; but it is known that displacement of the heart may occur very early in the course of Pleurisy—long before there is a large quantity of fluid in the pleural cavity. Pepper, in his "System of Medicine," quoting from Garland, shows how easily and readily the heart is displaced. Suspended in the pericardium, which is attached round the aorta, and this again fixed by ligamentous tissues to the third dorsal vertebra, the heart undergoes certain anatomical alterations with every change of position of the body. It is placed between two highly elastic bodies, the lungs, which are striving to retract in opposite directions. When effusion occurs into one side of the chest, the lung on that side contracts, exhausting therefore a certain amount of its retractile energy. The opposing healthy lung as it exercises a greater retractile force during expiration, draws the heart gradually over to its side. The heart is thus removed from the affected side, not by the excessive amount of fluid in it in the first instance, but by the fluid so destroying the retractility of the lung on that side, that there are no longer two mutual opposing forces in operation. This allows the healthy lung in its recoil to drag the heart away from its normal position. Where there has been previous disease and adhesions, the heart

may be drawn to the affected side. It is sometimes stated that the heart is never twisted vertically. That is not correct. I have seen a case of pleural effusion where the heart was twisted in a vertical position, so that a large portion of the posterior surface of the heart presented anteriorly.

The displacement of other organs need not detain us. Where the effusion is very great and the diaphragm pushed down, both liver and spleen will be found at a lower level than their normal.

At the outset of a Pleurisy the respiratory murmur is on auscultation frequently found to be rather jerky over the base, or weak and indistinct, but sooner or later friction sound is heard during inspiration and expiration. As it is the rubbing of the two roughened pleural surfaces which causes this murmur, its persistence will vary according to the rapidity with which fluid is thrown out. Sooner or later in most cases it disappears, whilst in others—those of dry Pleurisy—the murmur may become louder and more grating. Effusion into the pleural cavity not only abolishes the friction sound, but by compressing the lung and therefore forcing it to recede from the chest wall, also brings about disappearance of the respiratory murmur. This may only be diminished, or it may be absent altogether. Above the level of the fluid and in the healthy lung the respiratory murmur is often more distinct than in health. When the fluid is being absorbed and the lung again expands, there will be not only a return of the respiratory murmur, but possibly, too, of the friction sound.

It is generally stated that in cases of Pleurisy with effusion, vocal fremitus and resonance are absent. That is true as a rule over the base of the lung and in the axillary region, but close to the spine both of these signs are frequently exaggerated—the compressed lung lying close upon the spine behaving as the consolidated lung in pneumonia, and causing therefore exaggeration of the voice sounds. In most cases where the effusion is considerable, the vocal resonance exhibits the well-known bleating called *ægophony*—a sign only of importance in the diagnosis when accompanied by other physical signs.

We have mentioned the principal symptoms and signs of pleurisy with effusion. The disease generally lasts from two to four weeks or a little longer; but the longer it lasts and the more acute the pain the greater is the likelihood of the case being tubercular. The persistence of a high temperature after the third or fourth week, if accompanied by sweating and emaciation, should lead us to suspect a change in the character of the pleural effusion from serum to pus. Some deny that this is the way an empyema is developed—maintaining that empyema is a purulent secretion from the pulmonary pleura covering a patch of lung, the seat of pneumonia. I have seen

empyema form in both these ways, and have also seen it as a primary purulent inflammation of the pleura without pneumonia at all. The peculiarity about these cases of primary empyema is that they develop sometimes with great rapidity, and run on quickly to a fatal termination in one or two instances, to my knowledge, in three to four days.

Before leaving this part of our subject we must remember the frequency with which the various forms of peritonitis, especially that met with in the puerperal state, are liable to give rise to pleural effusion, which is very often purulent owing to the interchange of septic fluid between these two cavities through the stomata in the diaphragm, as Recklinghausen showed some time ago.

The principal complications of pleurisy that I have met with are pneumonia and pericarditis, which may be mild or severe. If either is extensive it lends considerable gravity to the prognosis. Another complication is phlegmasia alba dolens. Of the dangers of large effusions I need only mention syncope and cardio-pulmonary thrombosis. Sudden death occasionally occurs in these cases.

The *treatment* of pleurisy divides itself naturally into that for the stage antecedent to effusion and also for the periods subsequent to it. The pain which is met with in these cases, if moderate, may be overcome by strapping the chest wall with belladonna or soap plaster, and so fixing the ribs that they move *en masse*. Occasionally the pain is extremely severe, and requires to be met by the subcutaneous injection of morphia or of morphia and atropine combined. The pain, as a rule, does not last more than a day or two, but in the case of a strong medical man, whom I saw a short time ago the subject of acute pleurisy, the pain was excruciating, and lasted for several days, being scarcely controlled even by large doses of morphia administered hypodermically. Here the inflammation was extensively distributed over the pleura, and the effusion was evidently scanty and fibrinous. Where the effusion is serous and not excessive the fluid will generally disappear under the administration of diaphoretics and diuretics. During the period of absorption of a pleural effusion there is frequently a very slight rise of temperature consequent upon the entrance into the blood of some products of the simple inflammation. This mild pyrexia, therefore, in no way indicates the presence of pus.

The question that concerns us most, however, in the treatment of pleural effusion is, should we aspirate, and if so, when. It is laid down in textbooks for our instruction that if there is any urgency of symptoms, such, for example, as great dyspnoea or breathlessness, accompanied by signs of cardiac failure, we should at once remove the

fluid. With this recommendation there can be nothing but general acquiescence.

But is thoracentesis only to be performed when there is danger to life? My own practice is not to wait, as some writers suggest we should, until the pleural cavity is nearly filled with fluid—until the pyrexia subsides—or until the 24th or 25th day, of the illness is passed. Each case must be dealt with on its own merits and requirements. The presence of fever is no barrier to the operation. It is not true as some assert, that if the fluid is removed early, and during the febrile stage, that it necessarily reaccumulates. Some of my best and permanently good results have been obtained by aspirating the chest early on in the illness. Given a case where there is extensive pleural effusion, of a serous character, and with little or no constitutional disturbance, we may deal with it medicinally or by operation. The removal of pints of serum from the chest by means of medicine, is, on the whole, a slow process. I admit, that, by means of Diuretin, in 15 grain doses, repeated three or four times in the day, I have, in a week or ten days, practically pumped the fluid out of the chest. Still we should never forget that all this time the lung is being compressed, and the *rationale* of any line of treatment is not only the quick removal of fluid, but to bring about an early expansion of the lung. Both of these results are obtained by aspiration. I do not think that the removal of the fluid is more likely to be followed by a reaccumulation of it in the early than in the late stages. I would say the late stage rather than the early; simply for the reason, that the lung is not so likely to expand. No doubt the operation has been followed by a purulent transformation of the fluid, when it has reaccumulated in the chest. This will follow, even with the most careful antiseptic precautions, but the frequency with which it follows paracentesis has never made me withhold my hand from the operation. Besides, I have tapped the chest of a patient, and found that the fluid removed on the second aspiration contained a small quantity of pus, and that on the third and fourth tapplings all pus had disappeared. Paracentesis, however, is not without its danger. The fluid should be removed slowly, and anything like syncope, which is an indication that there is probably some pericarditis as well as Pleurisy, or an extremely dilated, heart should cause us to stop the operation. The same remark applies to any severe cough which is induced, or complaint of very great pain. I prefer the patient gently lying on his side whilst being aspirated, and in all cases where the effusion is large, immediately before the operation I administer a small quantity of brandy.

It is astonishing how quickly patients are relieved of their dyspnoea by removal of the fluid. This occurs too in cases where only a few ounces

of serum or pus are removed. Half a pint removed gives enormous relief. The largest amount I have removed was nearly ten pints from one pleural cavity. It must be remembered, however, that a patient may have all the physical signs of pleural effusion, even of extensive pleural effusion, and though the aspirating needle is inserted into the chest time after time, at different levels and varying points in the chest wall, no fluid is removed; and yet, post-mortem, there may be pints of fluid in the chest, as I have seen on more than one occasion. Again, one of the local sequelæ of Pleurisy with effusion is thickening of the pleura and adhesions. Long after a Pleurisy has been treated and apparently successfully, dulness is detected in the chest—probably due to a thickened pleura. It is astonishing with what rapidity extensive thickening of the pleura develops. One of my cases, a young Swede, 18 years of age, was admitted with his right chest nearly filled with fluid, suffering from extreme dyspnoea and with a fairly high temperature. Nine pints of fluid were withdrawn. Six weeks afterwards there was very extensive dulness over the chest, postero-laterally and also high up anteriorly, but the needle inserted into the chest here and there only penetrated a hard, dense, and resisting thickened pleura.

As to whether aspiration should be performed in cases of phthisis with pleural effusion, my opinion is against the practice. These are just the cases that are apt to die suddenly after aspiration.

In regard to the treatment of empyema there can be no doubt. A good free incision and the insertion of a wide drainage tube give the best results. The dangers are if the operation is not performed, that the pus may burst into the lung or into some of the internal passages, or that the patient may die from exhaustion and hectic fever, and the danger after the operation is that he may succumb to septic infection. It is best, if at all possible, that the operation should be performed without chloroform—the administration of an anæsthetic under these circumstances having on more than one occasion to my knowledge, been followed by sudden death.

In regard to Estlander's operation of the removal of portions of several of the ribs, and therefore of allowing the chest walls to come down upon the unexpanding lung with the view of obliterating the pus-secreting cavity, experience shows the advisability of this in several cases. As regards the washing out of the pleural cavity by disinfectants, or the treatment by perfusion—where two openings are made in the chest wall, and a through-ventilation of the suppurating cavity allowed—I cannot speak with satisfaction. Empyema, even treated by free incision, is not on the whole very satisfactory; many of these cases linger on for years, develop albuminuria, and die from phthisis.

A CLINICAL LECTURE ON THE SURGICAL AFFECTIONS OF THE UMBILICUS.

Delivered at the Middlesex Hospital, Dec. 20th, 1892,

By HENRY MORRIS, M.A., M.B. Lond.,
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GENTLEMEN,—A man with epithelial cancer of the umbilicus on whom I operated some time ago, supplies me with a suitable text for a lecture on the "Surgical Affections of the Umbilicus." To these diseases but little attention is given in text-books; they are nowhere collectively described like the diseases of other organs and parts; no account of them is readily accessible to students or practitioners, and they are, therefore, but little known or studied. Yet they are of very great interest, whether we regard them from the point of view of Etiology, Pathology, or Treatment.

I will first read the notes of the case alluded to, and then say a few words to you about each of the diseases and abnormalities of the umbilicus.

Wm. A., æt. 60, a bricklayer, was admitted on May 2nd with a tumour of the umbilicus, which was the seat of severe "scalding" pain. He was a well-nourished, grey-haired man, with a rather stout abdomen. In the previous October he fell, striking his belly against a lump of concrete; he felt much hurt at the time, and since has had pain about the navel, gradually increasing in intensity.

There was a hard lump larger than a walnut at the umbilicus; the skin over it was red, infiltrated, and much indurated, and spreading above and to the right of the umbilicus there was a subcutaneous area half an inch or more in width, of great induration, but over which the skin and subcutaneous fat were readily moveable. The umbilicus looked prominent and enlarged, and a cord-like hardness extended inwards towards the peritoneum. He was quite well up to the time he felt the pain and discovered the lump.

On May 12th two elliptical incisions embracing the umbilicus were made through the skin and subcutaneous fat. These structures were reflected above and to the right of the umbilicus beyond the deep induration above described, the whole of which was then included within the limits of the deeper incision. Thus a portion of the recti-muscles and peritoneum was removed much larger than that of the skin and fascia around the umbilicus.

On opening the peritoneal cavity two hard masses of growth were seen in the omentum. These masses were excised, the bleeding points ligatured, and the cut edges of the omentum stitched together. Some difficulty was found in bringing the edges of the peritoneum and muscles together because of the extent of the parts removed. This was accomplished, however, by taking a wide hold of the tissues with strong silk sutures. The edges of the skin were quite easily approximated. Broad strips of strapping applied over the dry dressings served to diminish tension on the stitches.

The man rapidly recovered from the operation, the wound healing by primary union; but three months

afterwards (August 2nd) he died from intestinal obstruction and perforation of the bowel due to recurrence of the disease within the abdominal cavity.

At the post-mortem examination a perforation of the ileum, with extravasation of fecal fluid, was discovered. An indurated mass occupied the seat of the umbilicus, to which coils of small intestine were firmly matted. A thick mass of cancerous growth of fibrous-like hardness extended along the suspensory ligament to the diaphragm above the right lobe of the liver. The liver and gall bladder were adherent to the parietal peritoneum, and the gall bladder was enormously distended with bile, and contained a number of gall-stones, one of which had blocked the cystic duct. The peritoneum at the mesenteric attachment of the small intestine was studded with cancerous nodules. A part of the ileum was converted into a rigid tube the size of the little finger by cancerous growths, and above this the gut was much distended. Cancer growth infiltrated the whole of the portion of small intestine which was matted together beneath the seat of operation.

Another case of cancer of the umbilicus has been operated upon in the Hospital during the present year. To it I have permission by Mr. Gould to refer to-day.

A man, *æt.* 55, a paper-maker, was admitted on the 9th of February, having been troubled with almost constant sickness for nine months previously—vomiting sometimes a dozen times a day. Six months after the sickness began he noticed a pricking pain at the umbilicus. He had been losing flesh meanwhile. On admission, a hard, uneven nodule, the size of a Barcelona nut, occupied the umbilicus; it was fixed in the belly wall and was adherent to the skin, which looked injected, and was partly covered with a thin epithelial coat. No mass and no abnormal dullness could be detected in the abdominal cavity.

On February 13th, Mr. Gould removed the umbilical tumour by two elliptical incisions, taking away the underlying peritoneum where it was involved in the growth. A fortnight after the operation, vomiting, intestinal obstruction and distension supervened; and death took place on the 4th of March. At the post-mortem examination the intestines were adherent at the site of operation, there was a perforation of the cæcum; a firm fungating submucous growth entirely surrounded the rectum four inches above the anus; a columnar mass of new growth, the size of half a peeled walnut, projected into the splenic flexure of the colon and infiltrated the mesocolon; and high up in the jejunum a very tight constriction was present, through which the finger could not be passed, and the mesentery at this part was also infiltrated with new growth. There were new growths also in the back part of the under surface of the liver, a minute deposit in one of the kidneys and masses in both spermatic cords below the abdominal rings.

The question arises, were these cases of cancer of the umbilicus primary or secondary? The six months of vomiting and sickness previous to the pain felt in the umbilicus, and the widespread deposits of cancer in the jejunum, mesentery, colon, and rectum found within three weeks of the operation, make it almost certain that the primary disease was in some part of the intestinal tube.

In my own case, I was at the time of operation certainly of opinion that the umbilical growth was of primary origin. The absence of every symptom previous to the discovery of the tumour, and the

“scalding” pains to which it gave rise; and the fact that except in the omentum no deposits were seen in the abdominal cavity at the time of the operation, seemed to me to point to the tumour of the umbilicus as being primary. But in this I may be mistaken.

Probably the columnar (as distinct from the squamous) epithelial character of the growths, will be thought to point to the umbilical tumour as being secondary and not primary; but I would suggest this is not a strong argument against the primary affection of the umbilicus, because columnar epithelium naturally exists in the structures of the umbilicus during the process of development, and in many cases persists there throughout life; and columnar epithelium is more-over found lining and covering some of the fleshy polypi which occur at the navel.

A study of these two cases will lead you to note:—

(1) The widely-scattered intraperitoneal growths discovered at the post-mortem examination; if these did not exist at the time of the operation, they must have developed very rapidly afterwards.

(2) In the first case there was the absence of any symptom at all to indicate intraperitoneal complications. In the second case, even though vomiting had preceded the discovery of the umbilical tumour, there was no hardness or dullness to point to omental, mesenteric, or intestinal implication.

(3) The great probability that a malignant tumour of the umbilicus, if not actually secondary to columnar epithelioma of the bowel, will give rise to malignant disease of the diaphragm, liver, omentum, or bowel.

(4) Even if there be secondary growths within the belly, the removal of the umbilical tumour gives temporary relief from the peculiar “scalding,” “plunging,” or “pricking” pains which these patients complain of.

In operating for cancer of the umbilicus, the surgeon must always be prepared to have to open the peritoneal cavity, and perhaps to remove a large piece of the parietal peritoneum.

If, owing to the large amount of peritoneum which has to be cut away, the divided edges cannot be brought together, it will be well, if possible, to fill the gap in the serous lining by grafting on the omentum to its cut margins; or the wound may be plugged by a mass of omentum so as to leave an epiplocele in place of the cancer. This latter plan was adopted by M. Després in the case of a woman *æt.* 65, from whom he removed considerable parts of the peritoneum and omentum invaded by cancer. Where it is not possible to fill the interval by omental grafts, the skin may be reflected and stitched over the interval, as was done by Sklifosovsky of Moscow in two patients,

from whom he removed large tracts of the entire thickness of the abdominal parietes for sarcoma ("Lond. Med. Record," 1883, May 15th). These plastic operations on the peritoneum have been followed by very rapid recovery.

SARCOMA and **FIBROMA** of the abdominal walls commencing in, or invading the umbilicus, have, equally with carcinoma, been found to involve the peritoneum and to necessitate the removal of portions of that membrane, sometimes with the best results (see article by H. Morris on "Injuries and Diseases of the Abdomen," Ashhurst, "Encyclopædia of Surgery," vol. v., p. 864).

PAPILLARY TUMOURS are sometimes *congenital*, and primarily affect the umbilicus. Sometimes they are *non-congenital*, or they may affect the umbilicus by spreading from neighbouring parts of the abdominal surface. The congenital papillary tumours give rise to no pain or inconvenience, provided the discharge from them is kept aseptic, if not they create so abominable a stench that the patient becomes a nuisance to herself and others, sufficiently so to prevent her retaining any situation as a domestic servant (Ashhurst, "Encyclopædia," op. cit., p. 864).

Sometimes *fleshy polypi of the umbilicus* originate in an error of cicatrization, and are noticed immediately after the umbilical cord falls off. Their size varies from a currant to a date stone, or larger; they are of a bright red colour, and more or less pedunculated and moist on the surface. Rarely they bleed to a dangerous and even fatal extent. They often look like a soft wart or granulation tumour. Microscopically they consist of branched mucous glands, having a fibro-nucleated stroma, and are covered and lined by columnar epithelium. A small aperture, admitting a probe, is usually seen on the summit of the polypus, and when the little growth surmounts a fæcal, biliary, or urachal fistula, as it sometimes does, the probe can be passed inwards for a long distance. The treatment of these polypi, when unconnected with a visceral fistula of any kind, consists in ligaturing their pedicles and allowing them to dry up and fall off. The daily application of resorcin, zinc chloride, or alum is also very beneficial. If a fistula exists the removal of the little granulation mass may be followed by the persistent discharge of fæcal matter, pure bile, or urine, according to the viscus from which the fistula springs. Papillary tumours of considerable size sometimes involve the umbilicus after starting from some adjacent part of the abdominal walls. They are best treated by free excision. They show no tendency to recur after removal.

URACHAL CYSTS.—Cyst-like dilatations of the upper end of the urachus are sometimes formed

at the umbilicus as well as at other spots along the median line, between the umbilicus and the pubis. They are the result of defects in the embryonic changes which usually result in the obliteration of the urachal tube. They are therefore of congenital origin, and it is remarkable for how many years they may remain in abeyance, and then in mature or late life suddenly develop into tumours of an enormous size. They are situated in the cellular tissue immediately outside the parietal peritoneum, and between it and the transversalis fascia, and have been known to attain such a size as to simulate ovarian cystoma. Their contents vary, being either mucus, or mucus and epithelium, urine, putrid urine, or pus.

The cyst wall is composed of a mixture of fibrous and non-striated muscle tissue, covered over with cells like those lining the interior of the bladder, and the urachus or allantois of the fœtus.

Their growth is slow and painless, and they may be stationary for many years. They occur singly or in multiples, one instance having been reported in which there were three immense cystic dilatations.

When situated at the umbilicus, and of small or moderate dimensions, they may be mistaken for umbilical hernia; but their elastic and fluctuating character, and, in some cases, too, their translucency, together with their history and irreducibility, ought to direct one to a correct diagnosis. In certain cases the urachus remains patent throughout its length between the urinary bladder and the umbilical cyst, and as the urine collects in the bladder, some of it travels up the tube and distends the umbilical cyst, which is thus subject to periodical or intermittent enlargement. Small cysts of urachal origin, have been met with all along the linea alba, from pubis to umbilicus, when performing median laparotomy. Mr. Lawson-Tait, who has drawn special attention to this class of tumours, has related twelve cases of large *extra peritoneal* cysts, which he believes to have had this origin, three of which at least appear certainly to have been such. Mr. J. Bland Sutton microscopically examined some of these specimens of Mr. Tait, and concurs in that surgeon's view as to the nature of each of those which he examined. Mr. Sutton has also collected some very interesting particulars about these urachal or "Allantoic Cysts," in his work on general pathology, from which we learn that they have been found in the pig, cow, horse and mole, as well as in the human fœtus.

The operative treatment of these cysts has hitherto consisted (1) of excision, and (2) incision, irrigation with iodine or other solution, and drainage. The latter plan has been the most successful. There are two dangers attending the excision: (1) that the vitality of the disturbed and denuded peri-

toneum will be lost, and (2) the formation of urinary extravasation if the lower end of the urachus remains patent. If excision is resorted to, it will be best to remove a large portion of the detached peritoneum, and bring the edges together by means of buried sutures, or what will probably be better still will be to utilise omental grafts, or to reflect large parts of the skin in the manner of Sklifosovsky, referred to above.

URACHAL ABSCESS AND FISTULA. At birth the urachus is very frequently tubular for a short distance only above the bladder, but occasionally it is patent throughout its length at the time of birth, and may remain so permanently. Under these circumstances, a discharge of urine is likely to occur at the umbilicus, and what is known as an urachal fistula exists.

Cruveilhier and Boyer stated that the urethra is always obstructed when there is an urachal fistula; and that if the obstruction is removed the fistula ceases. But the experience of actual cases shows this view is not absolutely correct. It is undeniable that obstruction in the urethra is sometimes associated with urachal fistula, but there must be also an imperfect obliteration or no obliteration at all of the urachus, as well as the urethral obstruction, for an urachal fistula to be formed. There may be an urachal fistula without urethral obstruction; and conversely an urethral obstruction without an urachal fistula.

I have dissected one case, and reported another ("Lancet," May 13th, 1876), in which saccular dilatation of the kidneys, ureters, and bladder was found in children at birth (and due to urethral obstruction), in neither of which was there any urachal dilatation or fistula.

Nor does it always follow where an urachal fistula does exist that the removal of an urethral obstruction will put an end to the fistula. Two very remarkable cases, which I have elsewhere quoted, prove this very conclusively (Ashhurst, "Encyclopædia," p. 967).

Urachal fistula may be either *congenital* or *non-congenital*; but in either case there must be the congenital defect of an unobliterated urachal tube. An urachal abscess, which has either burst or been opened by the surgeon, usually precedes the non-congenital fistula.

In other cases, however, the fistula has become established owing to frequent and forcible efforts at micturition, without suppuration, owing to some obstruction in the urethra, or to cystitis.

The presence of a calculus or polypus in the bladder has been the determining cause of an urachal fistula to which the patient was pre-disposed.

In other cases, again, an abscess of the urachus has formed after the vesical end of that tube has

closed; in these instances there is no escape of urine from the fistula.

The orifices of urachal fistulæ vary very much. It may be (a) a button-like, papillary, or columnar projection; (b) the urine may escape at several points on the surface of a hernial protrusion of the tube; (c) a hernial protrusion may act like a plug, having a single fistulous opening at the side of its pedicle. In these cases urine may accumulate to the degree of distension of the bladder without escaping, but immediately a voluntary effort at micturition is made the urine jets out forcibly at the umbilical opening, though it does not continue to escape thereat throughout the whole act of micturition; (d) the orifice may be a single circular, oval, or angular deficiency of the integument and other tissues; (e) a cup-like depression hidden by the falling together of the folds of the umbilicus; (f) the tract of the fistula may be very circuitous, and the orifice a simple slit or puncture.

Many cases of urachal fistulæ are prone to be complicated with attacks of cystitis. When cystitis occurs suppuration along the course of the urachus is more than likely to be excited. Again, if the vesical end of a patent urachus has become closed after urine has entered the tube, the urine and mucus so pent up are likely to lead to the formation of an abscess. The resulting abscess either bursts or is opened by the surgeon, and a non-congenital urachal fistula may be thus formed quite independent of any urethral obstruction.

The prognosis in urachal fistula is unfavourable. If the urachus is patent without there being any urethral or vesical obstruction, there is no reason why life should be interfered with, though the patient's comfort necessarily is so. When the fistula is congenital, and caused by some obstruction to the outflow of urine, the prognosis will depend (a) upon whether the kidneys and urinary passages are already irreparably disorganized; and (b) upon the possibility of effectually removing the cause of obstruction. When the fistula is non-congenital, the cystitis and abscess which so frequently precede it, are associated with, if not the outcome of very depraved health, and death is most likely to occur from exhaustion, cystitis, or pyelo-nephritis.

In the treatment of these cases there are two clear indications: (1) to remove any source of obstruction to the urine, such as calculus, vesical or urethral growth, phymosis, cystitis, etc.; and (2) to close the fistula where there is no cause of obstruction to the natural outflow of the urine. (See Ashhurst's "Encyclopædia," vol. v., p. 970, 971.)

FÆCAL FISTULÆ. These sometimes open at the umbilicus, and may be either *congenital* or *non-congenital*. Sometimes the colon and rectum are deficient, and the small bowel

terminates at the umbilicus. More frequently the fistula is due to Meckel's diverticulum—a remnant of the omphalo-mesenteric duct, consisting of a flask-like or tubular appendage of the ileum—connected with the gut at some point between 1 and 3 feet from the cæcum. When this is the case the bowel below the diverticulum may be well-developed and perfectly patent throughout; or it may be more or less constricted, and may have a more or less perfect diaphragm: again, the bowel may be contracted down to a mere tubular or imperforate cord: or there may be complete separation of the ileum with occlusion of the proximal and distal ends of the bowel. (See paper by Leopold Hudson, Path. Soc. Lond., 1889.)

If the diverticulum terminates at the umbilicus in a blind end, or a fibrous cord, there will of course be no fistula. The faecal discharge commences at the time of separation of the funis, and may be profuse owing to the width of the diverticulum and its orifice; or slight, because of the extreme narrowness of the fistulous orifice.

In other instances a reddish tumour covered by mucous membrane, and described variously as a warty tumour, an adenoma, or a mucous polypus, is formed at the umbilicus; and beneath this, or sometimes upon its summit, a minute fistulous opening is present, from which, however, no faeculent discharge escapes until after the removal of the little growth by ligature, caustic, or rubbing. These little tumours are in structure similar to the mucous membrane of the small intestine.

In many cases the discharge declines, and the fistulous orifice closes spontaneously after a longer or shorter time. This is most likely to happen when the umbilical opening is small and the bowel below the diverticulum is natural. When the tubular process is wide, and opens freely at the umbilicus, some plastic operation will be requisite. When the bowel below the vitelline duct is very narrow or quite closed the umbilical opening must be kept patent, or dilated, or converted by incision into an artificial anus. If there be no obstruction below, as evidenced by the easy and free discharge *per vias naturales*, and the fistulous opening does not close spontaneously, surgical treatment will be requisite.

Only if the diverticulum springs high up in the ileum, should an operation be undertaken until the child is in robust health, and has reached an age when repair will proceed favourably.

When the duct is attached some three feet above the cæcum, and the orifice is large, the child will rapidly sink from inanition unless the opening can be successfully closed at once. In such case very early treatment is demanded.

Excoration must be obviated by cleanliness and aseptic applications, and the discharge suppressed

by a compress, by which means peristaltic action, which brings the contents of the gut towards the umbilical opening, will be checked. The diverticulum may thus be emptied, and kept empty, and then the opening may possibly cicatrize. When this fails, the mucous membrane at the orifice should be destroyed, either by the repeated application of escharotics, or by the thermo cautery, or by dissecting it away, and then the granulating or raw edges should be brought together by sutures and strapping. It is necessary to destroy the mucous lining for at least a quarter of an inch, so as to make an ample surface for granulation, or adhesion.

Where there is a tumour at the umbilicus, it should be removed by ligature or cautery, and the mucous membrane around the orifice should be removed or destroyed, and the raw surfaces approximated, as just stated above. It should be remembered "that the cure depends on cicatrization of the aperture, and the avoiding cicatrization between the skin and the mucous tube."*

When the tube and its orifice are very wide and free, the diverticulum should be detached from the umbilicus, and its extremity invaginated, securely closed by Lambert's sutures, and dropped back into the abdominal cavity.

The non-congenital faecal fistulae usually follow abscess or injury, and may involve the bowel at more than one spot, matting coils of small bowel, or small and large bowel together. The treatment of these cases is not always satisfactory: they are difficult to close, and have a tendency to open up again from time to time. The patient should be kept on his back, fed on dry food as much as possible, and the parts around the openings should be kept very clean, and the orifice covered with a thin plate of lead enveloped in lint soaked in an acidulated solution and retained by an abdominal bandage. Many of you may have seen a lad who, for the last ten or twelve years, has come here to report himself once or twice a year. He was treated in this manner when between three and four years of age, and with the most satisfactory result.

In other cases enterorrhaphy or the operation of intestinal anastomosis might be employed; but I should not personally be disposed to resort to these operations till after a very prolonged trial of palliative measures. They are unpromising because of the adhesions and matting together of the intestinal coils, and of the coils of bowel to the abdominal parietes. In one case where I had refused to operate, an exploratory operation was undertaken by another surgeon, but it was found that nothing further could be done, and the child died shortly afterwards.

* T. W. King, on two cases of faeculent discharge at the umbilicus from communication with the diverticulum ilii.—"Guy's Hosp. Reports, 1843."

BILIARY FISTULÆ may be either *congenital* or *non-congenital*. In the congenital cases the discharge is either bile, or bile mixed with intestinal matter. In the non-congenital cases it may be pure bile, or more frequently perhaps pus or muco-pus, or these mingled more or less largely with bile or blood. The daily quantity which drains away has been found to vary from a few ounces to two pints. If the common bile duct is obstructed, the jaundice which precedes disappears after the opening of the fistula. In rare cases the gall-ducts are patent, and bile both escapes by the opening and passes off also into the bowel.

The non-congenital cases may result from gunshot or other injury; or inflammation may be set up by gall-stones, dropsy of the gall bladder, or other causes leading to adhesions between the liver or gall bladder and the abdominal parietes; or bile or gall-stones may escape into a space circumscribed by adhesions beneath the parietes, and after ulceration or the opening of an abscess be discharged at the umbilicus.

I have known between twenty and thirty faceted gall-stones thus pass out at the umbilicus of a young woman, who quickly and completely recovered from the fistula as soon as the last of the calculi had escaped.

During the formation of a fistula due to gall-stones there is often great suffering, especially while the calculus is passing and bile is accumulating behind it; but the patients soon recover after the opening is effected; and often enjoy good health long before the fistula closes. The establishment of the fistula is not an unmixed evil, for it may save the patient from subsequent periodic attacks of hepatic colic, and jaundice. ("Lancet," March 11th, 1882, p. 391.)

The duration of biliary fistula varies greatly, whether arising from injury or from suppuration or ulceration of the gall passages. In some instances the fistula closes in a few days or weeks, in others it remains open for years, the patients the while having fair, or more or less impaired health. Complete healing may always be hoped for in cases due to injury or gall-stones or cystic dropsy; but when due to malignant disease or permanent impassable stricture of the common duct, death from marasmus will soon take place.

A rare form of biliary fistula has occurred in early infant life, the bile escaping through a patent umbilical vein. This arose from a communication between an abscess in the liver and one of the chief branches of the vein. (Dr. J. L. Smith, "Diseases of Children," 1886.)

HÆMORRHAGIC FISTULA. There is a very serious risk to infant life in imperfect closure of the umbilical vein, viz., the formation of what may be called a *Hæmorrhagic Fistula*. This condition

may set in with oozing of blood during the process of separation of the cord, or the bleeding may occur suddenly days after its separation, and when cicatrization is nearly complete. Thus hæmorrhage may begin any time between birth and the 24th day, but most commonly in the second week.

It is almost universally fatal, and on an average is so within 48 hours, though children linger on for several days. Boys are affected twice as often as girls, and more frequently succumb. Well-formed and apparently healthy children, born of healthy parents, and in natural labour have died from umbilical hæmorrhage.

It is caused by anything which interferes with the coagulating property of the blood, or whereby the natural obliteration of the umbilical vessels is prevented. The various forms of infantile jaundice, purpura, congenital syphilis, septicæmia from putridity about the funis, the hæmorrhagic diathesis, and forcible traction on the cord either during labour or by the nurse in washing the child act in this direction.

The treatment consists in the use of mild but active catheters (calomel having been particularly recommended) and anti-hæmorrhagic remedies. Compression and styptics—a piece of sponge soaked in a saturated infusion of alum or matico, or persulphate of iron, or resorcin, or tincture of witchhazel on a fold of lint, may be useful, but have rarely been permanently effectual. Cauterization in all its forms is to be avoided. The ligature of the umbilicus *en masse* with two needles transfixing it at right angles, offers the best chance of permanently arresting the bleeding (see article, Ashurst's "Encyclopædia," vol. v., p. 865).

ERYSIPELAS, PHLEBITIS, AND SEPTICÆMIA.—The umbilicus in new-born babes, and in very fat adults, occasionally becomes inflamed, excoriated or ulcerated from neglect of cleanliness.

In adults, the discharges therefrom are sometimes of the most foul and offensive odour; and erysipelas, once started, may spread rapidly over the whole abdominal and lumbar regions. In former days, I chanced to see some few cases of erysipelas in the new-born, and they all proved fatal very rapidly; in some, before the erysipelatous rash had spread far beyond the umbilicus itself. These cases occurred chiefly where the midwife or monthly nurse had dressed the funis with strips of rag covered with tallow, goose grease, or some similar filthy application. As the end of the funis is separating, the umbilicus becomes a "locus resistantiæ minor," for pus microbes, and the bacteria of erysipelas or septicæmia; and if the discharges become foul, or the dressings saturated with urine or fæcal fluids, the thrombi in the umbilical vein, instead of hardening and contracting, soften and break down.

Erysipelas, phlebitis, embolism or septicæmia may then occur, or inflammation spreading along the cellular tissue of the vein, may give rise to obstructive jaundice, by pressure of the inflammatory exudations on the gall passages.

The ordinary principles of surgery which are applicable to all wounds associated with sloughing, ought to be strictly enforced in the case of the funis and umbilicus right up to the time of complete cicatrization. Scrupulous cleanliness, the employment of dry antiseptic or dessicating (not oily or greasy) dressings, and the avoidance of frequent disturbance of the cord when so dressed, are the necessary precautions against these dangers. If pus has been formed at the umbilicus it should be frequently removed by antiseptic irrigation.

Let it be remembered that for some time after birth the umbilicus offers a very easy access for pus microbes and septic bacteria into the body. Impure secretions, foul air, or pus, can readily enter the umbilical vein, and then, owing to the suction-like influence exerted upon the umbilical vein by the action of the heart and lungs and diaphragm, the septic material can be transmitted throughout the body. In this manner of course the liver and lungs receive the first violence of the infecting micrococci, and abscess of the lung and fatal jaundice are specially prone to develop.

I cannot now consider with you the subject of umbilical hernia, but I may in conclusion warn you that the careless application of the ligature to the funis of a child with a congenital umbilical rupture has been known to include a portion of the stomach (Tillmann's "Medical Record," June 15th, 1883, p. 253), bowel, or urinary bladder, so that when the cord has sloughed off a gastric, fecal or urinary fistula has been left.

A CLINICAL LECTURE

ON

THE DIAGNOSIS OF THE MINOR UTERINE DISPLACEMENTS.

Delivered at the London Hospital by

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In a former lecture,* I described the principal causes of chronic abdominal pain in women, and how to distinguish them when local examination is undesirable or not allowed. Consider now the case of a patient, in whom the pain is *pelvic*.

Pelvic pain is so common in the diseases special

to women, that a description of every pelvic pain would almost make a treatise in the diseases of women. It is necessary to limit the subject. I will not describe here pain associated with certain functions—menstruation, micturition, defæcation, and sexual intercourse; or those for which a cause such as disease of the external genitals, or an abdominal tumour, can be seen or felt, and is mentioned by the patient.

I ask you to consider the case of a patient who is not acutely ill, but able to come to you; who has no sign of disease to which she directs attention, but complains of chronic pelvic pain, not especially associated with any function.

Begin by examining the abdomen. If there is no tumour, and the patient is not fat, the belly will be flat. Palpate it, and you will find the belly wall either

- a. resistant, or
- b. non-resistant.

a. *Resistant*, that is, the muscles are firmly contracted; the belly hard. This means one of two things; either the patient is very nervous, or very tender.

Distinguish between these two conditions, partly by the appearance and behaviour of the patient, and partly by the result of further examination. If the resistance be nervous, by maintaining steady pressure, while you distract attention by conversation, you can overcome the resistance. Another difference is this: that in nervous resistance the muscles stiffen at the beginning of pressure, before you have depressed the abdominal wall enough to come upon a tender part; but in rigidity due to tenderness, the muscles are not made hard until you have pressed down on the tender place. This would be a very satisfactory diagnostic sign, were it not that a patient may be both tender and nervous.

What are the conditions which, without any abdominal swelling, cause chronic pelvic pain? Broadly speaking, they are three:

1. Displacements.
2. Pelvic inflammations.
3. Neuralgias.

The first two conditions are detected by their physical signs. In the last, the only physical sign is tenderness.

Suppose that in the case we are investigating, the belly is not resistant. With gradual firm pressure you can press down into the pelvic brim and into the loin, and make sure that there is no tumour. If there is neither tumour nor tenderness, we may eliminate inflammations.

What are the uterine displacements?

Those usually enumerated are inversion, lateriversion, antelexion, anteversion, retroflexion, retroversion, and prolapse.

Inversion is either an accident of labour, or an

* Published in Clinical Journal, No. 2.

incident in the history of a new growth, and need not detain us here.

Lateriversion is either normal (for the uterus, like the vomer, is seldom exactly in the middle) or results from the uterus being pulled aside by adhesions, or pushed aside by a swelling. The condition which produces it may be important, but the change in place of the uterus is not.

Anteflexion is the natural shape of the uterus in most virgins. The uterus is straight in only about one fourth of such patients. This normal curve is often straightened out by child-bearing, but not by anything else. It produces no symptoms, and therefore requires no treatment.

Anteversion is the usual position of the uterus when the bladder is quite empty. It therefore needs no further consideration.

The displacements that may be answerable for the pain of which our patient complains, are two—

1. Backward displacement.
2. Prolapse.

1. *Backward displacements.* I have used the plural, because two forms are usually described: retroversion and retroflexion. In the first the uterus is straight. In the second the body is bent back, the cervix remaining in its normal position. In the cases usually met with the body is bent back, and the cervix is tilted upwards and forwards. From the point of view of symptoms it is unimportant whether the bending is little or much: although this is very important from the point of view of treatment. Therefore I make no distinction, but speak of retroversion and retroflexion together, as backward displacements.

Backward displacement of the uterus in itself causes no symptoms. But in (as nearly as I can judge) about half the cases of backward displacement it is associated with descent. In a minority of the cases with descent (I estimate about one third of them) local conditions are present which cause the uterus to become congested when it is displaced backwards. When there is congestion of the uterus, the symptoms are more than those of prolapse. We have thus two classes of backward displacement: those with descent only; and those with descent plus congestion. The latter are distinguished by the uterine body being tender. For the present I postpone further consideration of these cases.

2. *Prolapse.* In great prolapse the patient is aware of a protrusion; and therefore such cases do not come strictly under the description of the case we are considering; but as the symptoms of great and slight prolapse are the same, we may take them together.

The symptoms produced by uncomplicated prolapse, and by backward displacement without congestion, are these. Dragging, aching pain in the lower belly, down the thighs, and in the lumbar

and sacral regions; and irritability of bladder. The pain is aggravated by standing, walking, defæcation, or muscular effort of any kind, and removed by recumbency. These are practically all the symptoms.

I have already pointed out, that the characteristic feature of the symptoms of prolapse, is that they all go away when the patient lies down. They are not necessarily relieved at once. The aching of the muscles and ligaments may take a little while to disappear. In backward displacement of the uterus producing congestion, it may take a few days for the congestion to go. But, generally quickly, though sometimes slowly, the recumbent posture gives relief. The existence of prolapse does not protect the patient from other morbid changes; and, therefore, it does not follow that because all the symptoms do not go away when the patient lies down, descent has no share in their production. But I make this assertion: if symptoms are not removed by lying down, they will not be removed by any kind of mechanical treatment, and they are not wholly (although they may be in part) dependent on uterine displacement.

On examination by the abdomen you find nothing abnormal. *On vaginal examination* the uterus is movable. You can push it up, or to either side; and when you press up on either side of the uterus, behind it, or in front of it, there is no undue fulness or resistance; nor, unless you press very forcibly, is there tenderness. This excludes pelvic inflammation. The other signs will depend upon the form of prolapse. The slightest and simplest form is:

Prolapse of the pelvic floor. The pelvic floor, as a whole, may be weak, so that it bulges down too much when the patient strains. You will find it out by telling the patient to bear down. The perineum ought not to descend more than about half an inch when the patient strains. In some cases it bulges down to the extent of two inches or more: and such excessive descent as this is usually accompanied with painful sensations. Descent of the pelvic floor is usually accompanied with descent of the uterus; but it may be present without any relative change in the position of the uterus. This is the slightest and simplest form of prolapse: weakness of the pelvic floor, without other alteration. In it the symptoms, though the same in kind, are slighter and less persistent. They disappear when the patient's nervous tone is good; as, for instance, after a visit to a health resort, in which the patient has enjoyed the advantages of bracing air and rest. The symptoms disappear, but not the local condition. If the patient gets "below par" the symptoms will return.

If the condition goes further, either (1) the uterus sinks into the vagina, inverting the upper part of that canal; or (2) the anterior vaginal wall

sinks down, and pulls the uterus after it. The rule is that the anterior vaginal wall comes down first; this drags down the cervix uteri, and the cervix drags down the posterior vaginal wall. Consider now the morbid change which begins the process.

You must not think that because a patient complains of her "womb" coming down, therefore there is uterine prolapse. In the great majority of cases the anterior vaginal wall is the first part to come down, bringing the bladder with it. This is called *cystocele*, because it forms a swelling containing the bladder. In some few cases the posterior vaginal wall protrudes first and most, and is bulged forwards and downwards by the anterior wall of the rectum, which protrudes into it. This is called *rectocele*. The usual order of events is first *cystocele*, then prolapse of the uterus, then *rectocele*. *Rectocele*, under any circumstances, is not so common as the other kinds of prolapse; and as the first and sole kind of prolapse it is very rare. It is also very rare to get more than a slight degree of prolapse without *cystocele*. There is a specimen in the London Hospital museum, in which the uterus is dragged down without the bladder, by a large pediculated tumour attached to the cervix; a rare and exceptional condition.

The diagnosis. *Cystocele* the patient describes as a lump coming down between the lips. It goes away when she lies, and returns when she stands. Examine it, and you see a convex protrusion between the labia, covered with rugous vaginal mucous membrane, and easily pushed back. In front of it is the meatus urinarius, and carrying your finger upwards and backwards along the surface of the protrusion, you come to, within the vagina, the cervix uteri. Laterally, the surface of the swelling is continuous with the vagina. When you pass a sound into the urethra with the concavity backwards, you find it enters the swelling, and its point can be felt just under the mucous membrane of the protruded mass. This shows that the protrusion contains the bladder. The only thing with which a *cystocele* might be confused is a tumour in the anterior vaginal wall. In any such condition the sound in the urethra would not pass backwards into the tumour.

Prolapse of the uterus. Whenever a woman strains, not only the perineum descends, but the uterus sinks: by a little inversion of the upper part of the vagina. This descent of the uterus does not normally exceed about half an inch. Prolapse, or abnormal descent, is divided into three degrees:—

The first, in which the cervix uteri comes down to the vulva, but not beyond.

The second, in which the cervix protrudes outside the vulva, but the body of the uterus is within it.

The third, in which the whole uterus is external.

This division is not arbitrary. In the *first* degree, the uterus is generally healthy, except that it comes lower than it ought to.

In the *second* stage, (a) the cervix is embraced by the vulval orifice: and the effect of this is to obstruct the return of blood from the part outside, which become *swollen* and *oedematous*. (b) Being outside, evaporation takes place from the exposed surfaces of vagina and cervix, which become *dry* and *scaly*, more like a patch of psoriasis than either healthy skin or healthy mucous membrane. (c) The exposed part is subject to friction, from the patient's thighs and clothing; and the result of this, together with the obstructed circulation, is *ulceration*. This is true ulceration: a depressed granular surface secreting pus and covered with granulation tissue instead of epithelium; it is not a new growth of gland tissue like a granular erosion. Sometimes these ulcerations are covered with a diphtheritic looking pellicle. (d) There is yet another change to be noticed. Most cases of prolapse of the uterus begin with prolapse of the vagina. The anterior wall of the vagina first descends, and drags down the cervix uteri. The body of the uterus being held in place by its own attachments, the traction on the cervix pulls the cervix from the body, and stretches and lengthens the part of the cervix which is above the insertion of the vagina. This may be so stretched that the uterine cavity comes to measure five inches long.

In the *third* stage, in which the whole uterus is outside, the conditions are altered. The inverted vagina forms a bag hanging from the vulva, at the bottom of which lies the uterus, usually retroverted; *i.e.* horizontal, the cervix in front, the body behind. I have twice seen it anteverted, but much oftener retroverted. There is now no longer pulling of the cervix from the fundus, and therefore the cervix is not elongated. As soon as the whole uterus gets outside, the elongation disappears and the uterus becomes again its normal length. The cervix is no longer constricted by being encircled by the vulva: and therefore the swelling of the cervix which was the result of the constriction disappears. The ulceration, and the dry scaly condition of the vaginal and cervical mucous membrane are the same.

Uterine prolapse of the first degree is recognised by the descent of the cervix when the patient strains, and the absence of enlargement of the uterus. Ascertain the size of the uterus by bimanual examination.

Uterine prolapse of the *second* degree, with elongation of the cervix, has to be distinguished from hypertrophy of the infra-vaginal portion of the cervix. This is a congenital malformation occasionally met with in virgins. It generally causes slight descent. Make the distinction by

pushing back the protruded cervix as far as possible. In prolapse with elongation from the dragging of the vagina, the cervix can be pushed quite back and up until not more than half an inch of its length protrudes into the vagina. In hypertrophy of the infra-vaginal cervix, however high the cervix is pushed up, the columnar vaginal portion remains jutting downwards into the vagina for a length of one to two inches or more.

Uterine prolapse of the *third* degree can scarcely be taken for anything else if examined with care. There is a bag hanging from the vulva covered with dry scaly mucous membrane. The finger passed round the neck of this tumour finds that its covering is continuous with the vaginal or vulval mucous membrane, and that the vaginal cul-de-sac is shortened or obliterated. At the bottom of the bag is the os uteri, and on taking the tumour between your thumb and finger near this opening you will feel the neck and body of the uterus lying at the bottom of the bag.

The only thing which could be taken for prolapse would be a tumour, either a uterine or a vaginal fibroid, protruding from the vagina. The patient might take this for prolapse, or prolapse for a tumour, and so might the doctor if he contented himself with hastily looking at it. But the presence of the os uteri at the bottom of the mass, and the uterus felt within it, makes its nature clear.

A *rectocele* forms a tumour protruding on straining, reducible when lying, covered with mucous membrane continuous behind with that of the vulva, in front with that of the vagina and cervix uteri. If you put your finger in the rectum you will find that a pouch of the anterior wall of the gut descends into the protruded vaginal wall.

A rectocele might at first glance be taken for a tumour, but the signs above described will prevent such a mistake. A protrusion of the posterior vaginal wall may contain a hernia: *i.e.*, a prolonged Douglas's pouch with coils of intestine inside it. In this case the finger in the rectum will find that the anterior wall of the bowel remains unaltered when the vaginal wall protrudes; and on manipulation of the protrusion the bowel within it can be felt, and when the bowel slips down or is pressed back, there will be a gurgle.

These are all the varieties of prolapse. Their symptoms are all alike, excepting with the additions that in cystocele there is sometimes difficulty in emptying the bladder. The patient will often tell you that she cannot pass her water till she has pressed the tumour up. And in rectocele, fæces often lodge in the protruded pouch, causing some irritation and difficulty in their expulsion.

The severity of the symptoms depends more on the character of the patient's nervous system than on the amount of the prolapse or the changes occasioned by it. A sensitive patient will

complain much and doubtless suffer much, from very slight local changes, especially if she be not only sensitive, but inclined by habit (or by injudicious advisers) to dread future ill consequences; while to a robust patient of sound judgment, and rightly informed of the nature of her ailment, prolapse is a trifle.

Retroversion and *retroflexion* differ from prolapse in this, that they often exist without symptoms. Therefore if you find the uterus displaced backwards, it by no means follows that you hold the clue to the patient's ill-health. Blame the displacement only if the symptoms are such as displacements cause.

There are two groups of symptoms that backward displacement of uterus may cause: those of prolapse, and those of prolapse plus congestion. The symptoms in patients in whom there is no congestion are those of slight prolapse, the only peculiar feature being that *sacral* pain is usually more prominent in the patient's account of her illness.

In backward displacement with congestion of the uterus (resulting from impeded return of blood owing to pressure on the veins by the folds which bound Douglas's pouch) the pain is more severe and continuous, for although relieved by lying down, it is not quickly removed. Menstruation is generally increased in quantity or in pain, and sometimes in both. Less often menstruation is diminished in quantity. The uterus is tender, and therefore there is dyspareunia.

There are exceptional cases which present other symptoms; but there is no difference in the method of diagnosis.

Retroversion and retroflexion differ in this. In retroversion the posterior wall of the uterus only presents the slight curve that results from the body being thicker than the cervix. In retroflexion the posterior wall of the body of the uterus forms with that of the cervix an angle, which may be so acute that the body and cervix are nearly parallel. (Owing to the thickness of the posterior wall of uterus, there is never, in an otherwise healthy uterus, an angle in the canal). Thus in retroversion, the position of the cervix is changed as well as that of the body; in simple retroflexion the cervix remains in its normal position, the body being bent back. Most uteri displaced backward present retroversion with a slight degree of flexion. Retroversion, without any bend, is rare. Simple retroflexion, the cervix remaining in its normal position, while the body is bent back, is hardly ever met with. It matters nothing as to symptoms whether the uterus is little or much bent.

The diagnosis of backward displacement of the uterus is made by feeling the body of the uterus behind the cervix, instead of above and in front of

the cervix, where it ought to be. You will recognize the body of the uterus (1) by its size and shape; (2) by its continuity with the cervix; and (3) in case of doubt, by passing the sound into it. If the body of the uterus be displaced backwards, the sound will pass with its concavity backwards. Having so passed it, move the handle of the sound through a semi-circle forwards, so as to bring the point of the sound forwards without scraping it against the wall of the uterus. This done, you will no longer be able to feel the body of the uterus through the vagina. If a lump behind the uterus is removed thus, it can be nothing but the body of the uterus.

If the uterus be congested, the body of the uterus will be tender, and somewhat swollen. Now and then, but very rarely, the margins of Douglas's pouch are so tense and so close together, that not only do they compress the vessels which run outwards from the uterus, but they grip the organ so that the body when it gets below them, cannot rise. In that case when you press up the tender uterus, it is released from incarceration with a sudden slip; and after it has gone up you can feel per rectum the bands which have held it down. I have never met with a case in which I could satisfy myself that incarceration of this kind had occurred, although I do not doubt that it may do so.

THERAPEUTICAL NOTES.

White of Egg as a local application for Fissured Nipples:

Van Allen recommends the following treatment with which he has obtained good results in the treatment of Fissured Nipples. Each time, as soon as the child is taken away from the breast, apply the albumen and allow it to dry before covering up the breast. Before the child is again fed, moisten the nipple with water. According to the author, if this treatment is commenced at the first appearance of the fissure, the pain will disappear at once, and a cure will be effected in a few hours.—(*Nouv. Rem.*)

Pepsin as a local application to purulent cavities:

Swært recommends Pepsin as an injection for purulent cavities. Under its influence the pyogenic membrane quickly liquefies. The cavities should also be washed out daily with peroxide of hydrogen. (*St. Louis Courier of Med.*)

Antipyrine in Epistaxis:

Dr. E. G. West, of Boston, finds Antipyrine decidedly reliable in Epistaxis. It is his custom when a case of unusual violence occurs to saturate a pledget of cotton wool in a solution of antipyrine or in the dry powder, and introduce it into the nostril. It stopped the bleeding in every instance that he applied it. The patient by this method is relieved of the disagreeable tarry clots formed by the solutions of iron so commonly used for this purpose.

(*Med. Record.*)

Camphoric Acid for the Night Sweats of Phthisis:

Wood recommends this drug in the treatment of night sweats of Phthisis, in doses of about 18 grs. In the majority of cases one dose was sufficient, but in others, several doses had to be administered before the desired result was obtained. It gave good results even in those cases who died. No bad results of any sort were noticed.

(*Med. News.*)

Tincture of Iodine in Laryngismus Stridulus:

Watkins claims to have obtained good results in Laryngismus Stridulus by the internal administration of Tincture of Iodine. His method is to order one-fifth of a drop in water every 15 minutes at first, and then every 1 to 3 hours. He continues treatment for about 4 days after the attack.

Aristol as a local application for Cancer of the Cervix:

T. Areoles recommends Aristol for the symptomatic treatment of Cancer of the Cervix Uteri. Although it has no curative action on the cancer itself, it gives comfort to the patient. When insufflated on the ulcerating surface it hastens cicatrization and checks the tendency to hæmorrhage. There is no danger of drug intoxication, as it is insoluble and is not absorbed.

(*La Reforma Medica.*)

Strophanthus in Goitre:

In five cases of Goitre Young-Lafayette has been successful by the administration of Strophanthus. He commenced by ordering 10 mins. of the tincture three times a day, gradually increasing the dose to 15 mins. The treatment was as a rule prolonged about 2 months.—(*Wien Med. Zeitung.*)

Strychnine as a Heart Stimulant in Acute Lobar Pneumonia:

It must be given in large doses. By far the safest mode of administration is hypodermic. Given in this way each dose exerts its influence promptly, and there is no tendency to cause the so-called "cumulative action." From $\frac{3}{10}$ to $\frac{1}{10}$ grain may be given at a time, and the same or a smaller dose repeated every half hour, if necessary, until the heart becomes stronger or toxic symptoms begin to appear. The limit of safety may be assumed to have been reached as soon as a distinct exaggeration of the deep reflexes appears. The way I have adopted for demonstrating such an exaggeration is very simple. It is to lift the patient's forearm, the hand being allowed to hang with the extensors relaxed, and to strike the tendon of the supinator longus. If a marked contraction of this muscle occur, it is fair to assume that the reflexes are exaggerated.

Strychnine is what might be called an honest drug, for it gives warning of toxic symptoms long before the latter appear, provided it is used hypodermically. I repeat that I do not wish to claim for it more than a limited range of utility, though I think it may prove as valuable as alcohol for heart stimulation.—(Roosevelt, *Med. Record*.)

Ipecachuanha in Uterine Inertia:

Stillmark reports the following case:—

Patient's fifth confinement; previous labours easy and satisfactory. Membranes ruptured three weeks before full time; slight pains being experienced. The following morning the head was found presenting in second position. The os admitted three fingers. No pains occurring, patient was put in a warm bath, but with no result. Nine hours later a hot vaginal douche was administered without any result. The following morning a hot bath, followed by hot douches and uterine massage, was tried. As this produced no effects, 15 minims of Ipecachuanha Wine was administered in some water. The patient stated that she felt some pains one half hour later. Another 15 drops were given at 1.30 p.m. Strong pains commenced three-quarters of an hour afterwards. As this produced some vomiting, no more was given until 10 p.m., when five drops were given. Strong pains set in, and the child and placenta were delivered at about midnight.

St. Petersburg. Med. Wochen.

FORMULÆ.

Diarrhoea in Children. (*Deutsche Med. Wochen.*):

R. Acid. Boracici ... 3j
Glycerini ... 3iv
Tinct. Cort. Aurantii ... 3ij
Aq. Destillat ... 3xv

M. One teaspoonful every three hours.

Chronic Gout. (*Med. Review*):

R. Ext. Colchici Acet.
Ext. Rhei
Ext. Aloes. Socot. aa gr.vj
Ext. Belladonnæ ... gr.j

M. Ft. pil., No. vi. One at night twice a week.

For Facial Neuralgia. (*Times and Register*):

R. Butyl. Chloral ... gr.xl-lxxv
Spt. Vini. Rect. ... 3iiss
Glycerini ... 3v
Aq. Destillat ... ad 3iv

M. Two to four teaspoonfuls when the pain is bad.

For Grave's Disease. (*Dieulafoy, Times and Register*):

R. Ipecach. (pulv.) ... gr.½
Fol. Digitalis (pulv.) ... gr.½
Ext. Opii ... gr.½

M. Ft. pil. j. Four to six every twenty-four hours.

A Method of rendering Iron Digestible and Assimilable. (*Ewald, Digestive Disorders*):

R. Tinct. Ferri. Perchlor. 3j
Aq. Albuminosæ * ... 3vj

M. Ft. sol.

*Aq. Albuminosæ consists of—

White of Egg ... 1 part
Water ... 5 parts

For Eczema in Infants. (*Ther. Gazette*):

R. Acid. Boric ... gr.xx
Zinci Oxid. ... gr.lxxv
Amyli (pulv.)
Vasellini ... aa 3j

M. Ft. unguent. To be applied after the crusts have been removed.

THE CLINICAL JOURNAL.

WEDNESDAY, JANUARY 18, 1893.

A CLINICAL LECTURE ON SYPHILIS OF THE LARYNX.

Delivered at St. Thomas's Hospital
By **FELIX SEMON, M.D., F.R.C.P.**

GENTLEMEN,—The disease which forms the subject of to-day's lecture is more important from the gravity of its later stages than from its general frequency. It may be said that no absolutely reliable statistics concerning the last-named point exist, and this in part is due to the fact that, as a rule, only the more severe forms of the disease come before the laryngologist, while the affection in its less serious manifestations is easily enough overlooked. But in the best statistics obtainable, namely, those of Professor Lewin, of Berlin, it has been shown that in 20,000 cases of syphilitic affections, which came under that author's observation during seventeen years in the Syphilis wards of the Berlin Charité Hospital, only about 3 per cent. were observed to involve the larynx, and that again of this number the great majority, viz., about 87 per cent. belonged to the earlier and slighter stages of the disease, while in a small minority only, viz., in 13 per cent. were such graver lesions found, as I shall presently have occasion to refer to.

Now the manifestations in which syphilis of the larynx may show itself are of a three-fold nature, belonging either to the so-called secondary or to the tertiary stages, or, thirdly, being of congenital origin. So far as my knowledge goes, no single case of actual primary syphilis, such as is occasionally observed in the mouth and throat as far back as the tonsils, has ever been noted in the larynx. This is a fact which may no doubt be explained by the comparatively deep situation of the vocal organ.

In speaking of secondary and tertiary affections, I wish at once to lay stress on a matter of great importance from a practical point of view, viz., that these sub-divisions are only classifications of convenience, and are not based upon unalterable scientific laws. No doubt in the great majority of cases, both with regard to the forms of the manifestations and also concerning the interval of time between the primary disease and the occurrence of laryngeal sequelæ, the differences, as indicated in the designations "secondary" and "tertiary" are considerable and characteristic enough; but it must not be forgotten that there are also a good many cases which belong to what may fairly be called "intermediate" stages of the disease, and which may with perfect justification be classified as well amongst the "secondary" as amongst the "tertiary" forms. A good example of the difficulties here occasionally met with was reported by me in the "Lancet" of 1882. It was a case in which it was practically impossible to decide positively, whether certain subglottic tumours of undoubtedly syphilitic nature were condylomata or gummata.

The reason that I lay stress at the outset of my remarks upon this particular point is that in the minds of a good many members of the profession the idea of a secondary lesion is definitely associated with one set of therapeutical formulæ, and that of a tertiary lesion with another set. If, however, you were strictly to adhere to such principles, though in the majority of cases they may be right enough, you will occasionally be met with failure, through not relying sufficiently on the individual features of each case.

On the whole, it may be said that the manifestations of syphilis in the larynx appear in the following forms:

1. Simple catarrh (Lewin's "erythema").
2. Papules (Condylomata; mucous patches).
3. Diffuse infiltration.
4. Gummata.
5. Ulcerations.
6. Fibroid metamorphosis.
7. Cicatrices (Membranous adhesions, etc.).
8. Neoplasma.
9. Perichondritis (sometimes leading to ankylosis of the crico-arytænoid articulations).
10. Paralysis.

Of these Nos. 1 and 2 are most frequently met with in the earlier or so-called "secondary" stages; Nos. 3, 4, 6, 7, 8, 9, 10 belong to the group of "tertiary" phenomena; No. 5, "ulcerations" are common, though in very different degrees, to all periods of laryngeal syphilis; and, finally, all these manifestations may occur in the congenital form of the disease, although, undoubtedly, the graver forms are very rarely met with under such circumstances.

Before discussing these different forms, I wish to say a few words about the periods of life at which laryngeal syphilis is most frequently met with. The general experience goes to show that acquired syphilis is mostly observed in persons between seventeen and forty years of age—a little sooner, perhaps, in females than in males. As to the congenital form it usually makes its appearance shortly, or else two or three years after birth. There appears to be besides, a late form of hereditary syphilis, appearing at the age of puberty. More probably, however, this form merely represents an exacerbation of previously existing disease. But while the ages as just stated are representative in the great majority of cases, a very important thing from a practical point of view for you to remember is, that no age is actually exempt from it; it has been observed in persons far above 60 and nearly up to 70 years of age. I have myself seen and described a case, in which deep and destructive ulceration of the epiglottis, which was promptly cured by antisyphilitic treatment, was observed in an old gentleman, aged 69, and Von Ziemssen also reports a case in which tertiary syphilis of the larynx occurred in a man of 68.

With regard to the question of sex, no very considerable differences as to frequency can be made out, both sexes appearing to be affected in about equal proportions. On the other hand, the experiences of most trustworthy observers considerably vary as to the influences of climate,

occupation, voice use, etc., upon the localisation of the virus in the larynx. I cannot presume to contribute much to the solution of these questions beyond saying, that some of my most severe cases were observed in professional voice-users.

With regard to the question, at what time after the primary infection the individual forms of laryngeal syphilis are met with, I now come to an important point. The so-called secondary forms may occur after the primary in from six weeks to a good many years, whilst the tertiary manifestations generally only occur after the lapse of several years from the time of the primary affection. But no hard and fast law can be laid down on this point. There are a considerable number of cases of syphilis of the larynx, in which secondary manifestations repeat themselves over and over again for a great many years, without more severe lesions ever becoming developed. There are other affections, tertiary in nature, which may be observed as early as four or six months after the primary affection. You have just seen the case of the man in the adjoining room affected with gummatous infiltration and ulceration of nose and pharynx—a case in which these tertiary lesions have occurred certainly not later than about one year and a half after the primary infection. In the case mentioned at the beginning of this lecture, what was most probably a nodular syphilide of the larynx, developed within the first year after the initial chancre; Mauriac has seen gummata two months and a half, and Zeisel a nodular syphilide on the skin four months after the primary infection.

I lay stress upon these facts, because I do not want you to exclude a case from its possibly belonging to the category of tertiary syphilis, from the mere fact that the primary infection had taken place but a short time before. It is by thus allowing, in deference to theoretical notions, precious time to elapse without at once adopting the energetic treatment absolutely required in this class of cases, that such sad conditions as seen in the patient in the adjoining room are engendered.

Returning now to my table of the various manifestations of syphilis of the larynx in its secondary, tertiary, and congenital forms, the first is (1) *simple catarrh* (Lewin's erythema). This may already occur six to eight weeks after the date of the primary affection, and is often associated with other early manifestations of constitutional syphilis in other parts, such as roseola, mucous patches on the tongue and palate, etc. In other cases, however, it occurs at as long an interval as two or three years, or even more after the infection, and may, as already mentioned, constantly recur and recur for years, without other developments of a more serious nature taking place in the larynx. This syphilitic catarrh is in no way distinguishable from the ordinary laryngeal catarrh. The distinction which has been made with regard to the colour of the affected parts, it being said that the colour is a more dusky one in syphilis, than that observed in simple catarrhal laryngitis, can hardly claim to hold good. The simultaneous occurrence, however, of mucous patches on the tongue, the soft palate and the tonsils, or the occurrence of a simultaneous rash upon the skin will point to the existence of constitutional syphilis, and even if these symptoms be absent, you will find that the syphilitic

catarrh, as a rule, is much more resistant to any local treatment than common catarrhal laryngitis, which feature, again, may draw attention to the possibility of its being of syphilitic nature.

The second form (2) *papules, condylomata, or mucous patches*, has for many years given rise to one of the hottest controversies in the field of laryngology, some authorities insisting on its comparatively frequent occurrence, whilst others strongly maintain that it hardly, if ever at all, comes under observation in the larynx. Thus, to give you only two instances, the late Sir Morell Mackenzie states in his text-book, that amongst about 120 patients suffering from early manifestations of laryngeal syphilis, he saw condylomata in a full third of all these cases, viz., in more than forty, whilst two other renowned laryngologists, Professors B. Fränkel and Lewin of Berlin, in a series of 200 similar cases, only found excessively few of these formations on the vocal cords and the epiglottis.

For myself, I must say, that since I wrote a paper on syphilis of the larynx in 1882, in which I referred to this question, I have seen a few projections on the epiglottis, to which the name of condylomata could possibly be applied, but even if this should be so, according to my own experience, the occurrence of the papulous syphilide is certainly one of the rarest phenomena observed in the larynx.

This last form, which is characterised by, in part thickening, in part erosion, of the epithelium, may end in simple superficial ulceration of the mucous membrane, just as we see it in any other of the mucous membranes of the body. On the other hand, it may disappear without treatment of any kind, but both, the syphilitic catarrh and the papular syphilide, have a marked tendency to recur again and again, each recurrence forming one of the attacks of throat-trouble, for which the patient seeks our aid, and which he tells us have often extended over a large number of years.

They constitute what would be called the secondary stages of syphilis, as observed in the larynx.

Approaching now the so-called tertiary forms, we first come to (3) *diffuse infiltration*, due to a small-celled proliferation, and caused, according to Eppinger, by direct inoculation from the syphilitic virus. These infiltrations which usually attack the vocal cords, the epiglottis, or the posterior wall of the larynx, at first have nothing very characteristic about them, and merely represent a general tumefaction of the affected parts, which, when much developed, of course, greatly disfigures the normal aspect of the affected part or parts. When involving the vocal cord or cords, it leads to more or less severe hoarseness, and, if projecting into the interior of the air passages, it may cause very considerable dyspnoea.

(4). The *gummata*, which, histologically, represent a more sharply limited, and well circumscribed, small round-celled infiltration, as a rule, develop in the sub-mucous tissue, and from there extend upwards, so that the laryngeal cartilages are only affected in the later stages, if at all. In rare instances, however, a sub-perichondrial infiltration may represent the *first* stage of this serious form of laryngeal syphilis, and perichondritis may actually occur, whilst the mucous membrane is still intact.

Both in the more diffused infiltrations as in gummata, we meet with one of the most characteristic phenomena of constitutional syphilis, when attacking the mucous membranes, viz., with an, as a rule complete, *absence of pain*; this is found both in the secondary, and in the tertiary stages, and will serve you as a valuable aid in the differential diagnosis between syphilitic and other ulcerative laryngeal affections, notably tuberculosis. It also explains why patients, suffering from even severe syphilitic lesions of the respiratory mucous membranes, so frequently seek medical aid only when already serious, and even irreparable lesions have been produced. It must have seemed to you incredible, for example, that the patient we just saw in the next room, should have allowed his extensive and destructive nasal and pharyngeal affection to go on unheeded for so long a time, until you heard from his own lips that, throughout his illness, he had practically had no pain. You must, however, be careful not to trust to this absence of pain *too much*, as there are certainly exceptions! I shall never forget the case of a married woman, aged about 60, who, many years ago, came to the Throat Hospital with extensive ulceration and tumefaction of the larynx, which certainly looked more like advanced carcinoma than like syphilis. There was additionally no history nor any other evidence of the last-named disease, and what finally decided me, in favour of the diagnosis of carcinoma, was considerable pain complained of as shooting from the throat into the ears. This symptom had just then been proclaimed by von Ziemssen as almost pathognomonic for laryngeal cancer. I only saw the patient once alive, but about two or three months later, was present at her post-mortem examination, when it was found that the laryngeal disease was not due to carcinoma, but to advanced tertiary syphilis, whilst several large gummata were found in the liver. The lessons taught by this case, viz. (1) that syphilis of the larynx is not *invariably* a painless affection, and (2) that pain, shooting from the throat into the ears, is by no means pathognomonic for laryngeal cancer, have never been forgotten by me.

In the neighbourhood of both, diffuse infiltrations and gummata, almost always a zone of very considerable, often oedematous, congestion is found, which, in itself, may be a source of great danger by narrowing the air passages. The gummata, themselves, either appear in the shape of the common nodular syphilide, i.e., represent a series of small semi-globular, usually yellow, sometimes reddish, tumours arranged in a semi-crescentic form, and surrounded by the just described zone of congestion and oedema, or, they occur as more solitary and larger tumours, attaining, sometimes, the size of a pigeon's egg.

Both the diffuse infiltrations and the gummata are extremely liable to sudden and complete breakdown, which, as a rule, begins from the centre and extends to the periphery, so that a day or two after a large tumour has been seen, this may have been replaced by extensive and deep ulceration. It must, however, here be stated that the ulcers resulting from the breakdown of diffuse infiltrations, have a greater tendency to extend on the surface than into the depth of the tissue, whilst the ulcers resulting from the decay of gummata are very deep, sharply limited, possess steep margins surrounded by a much in-

flamed area, and often cause, in their further progress, perichondritis and sometimes necrosis of the cartilages.

I have thus just explained how it is that (5) *ulcerations*, though of course most materially differing in importance and degree, may be met with as results of the early as well as of the later manifestations of syphilis, as mentioned in the beginning of my lecture.

In comparatively rare cases no breakdown of the diffuse infiltrations occurs, but a sort of (6) *fibroid metamorphosis*, in the course of which a certain organisation of the infiltration takes place, the latter becoming transformed into connective tissue. These forms, in which sometimes frequent relapses occur, each of them followed by a renewal of the metamorphosis of the fresh infiltration, lead to the justly dreaded forms of general chronic stenosis of the larynx, of which you have already had the opportunity of seeing several examples in the course of the present term.

The result of the ulcerations of the tertiary period, especially when influenced by appropriate treatment, needless to say, is the formation of (7) *cicatrices*. These cicatrices are endowed with the general particular tendency of syphilitic scars, viz.: towards very great contraction and deformity of the parts previously occupied by the ulcers themselves, and of their neighbourhood. This is due to the well-known fact that the centre of a syphilitic ulcer possesses the least power of recuperation, whilst the periphery of the ulcer is more advantageously placed in this respect. The result of this peculiarity is the formation of stellate, tough cicatrices. If this should happen in the neighbourhood of, or within, the air passages themselves, as at the level of the glottis, at the base of the epiglottis or in the trachea, frequently stenosis and dyspnoea are produced; whilst if the ulceration occupied the neighbourhood of the ventricular bands or especially of the vocal cords, not rarely membranous diaphragms are formed between these parts, which may completely occlude the lumen of the larynx. The deformities resulting under such circumstances sometimes are so great as to make it perfectly impossible for the observer to recognise the pre-existing normal conditions of the parts in the mixture of destruction, scar-tissue, hypertrophy, membranous bands, etc., which presents itself to his eyes.

Sometimes either as a result of ulceration or even without the pre-existence of such a process, hyperplastic changes occur, leading to the formation of actual (8) *neoplasms*. Thus papillary excrescences may be seen in any part of the larynx, imitating, as it were, other new growths originating without the influence of the syphilitic dyscrasia. They are most frequently found on the posterior wall of the larynx between the arytenoid cartilages; but you ought always to be careful not to mistake the steep and ragged walls of a syphilitic ulcer situated on the posterior wall of the larynx, and only seen in profile with the laryngoscope, for an actual neoplasm.

The most serious form no doubt in which syphilis may attack the larynx is that of (9) *perichondritis*. I have already mentioned before that this may happen in two ways: i.e., either during the breakdown of a gummatous ulceration, the perichondrium and the cartilages themselves become attacked, or secondly, the gummatous

infiltration primarily occurs between the perichondrium and the cartilage, and from there proceeds both upwards and downwards. I have also stated that the latter mode undoubtedly is the rarer one. In both forms, however, the result may be the same, viz., caïes, necrosis, and not infrequently expulsion of the diseased cartilage, either as a whole or in parts. Thus not rarely, as you see in these specimens here, the epiglottis may be entirely or nearly so eaten away by the syphilitic process, or an entire arytenoid cartilage or parts of the cricoid and thyroid may be expelled, or an ankylosis may be formed in the crico-arytenoid joint, imitating, after an arrest has been produced, either by means of treatment or spontaneously, paralysis of the corresponding vocal cord. Not long since I saw in private practice a patient with an enormous ulceration on the anterior wall of the sub-glottic cavity, in the depth of which the bare and discoloured thyroid cartilage could be plainly seen. In another case a patient brought me a piece of what he called "gristle" which he had expectorated, and which on examination turned out to be an entire necrosed arytenoid cartilage. Several patients are now attending the Out-patient Department, in whom you can study for yourselves the appearances of unilateral or bilateral ankylosis of the crico-arytenoid articulation, which in one of them has necessitated tracheotomy nearly ten years ago, the patient even now being compelled to wear a canula. Let me here briefly mention that in rare cases, as I pointed out in the "Medical Times and Gazette" in 1880, without previous suppuration a form of *adhesive* or *sclerosing* perichondritis seems to occur, characterised by thickening of the affected parts in consequence of an inflammatory new formation of connective tissue between the inner layer of the perichondrium and the cartilage. The subsequent events, so far as appearances and symptoms are concerned, would be the same as in the suppurative form, and the occurrence of an otherwise obscure immobility of a vocal cord, combined with great thickening at the base of the corresponding arytenoid cartilage, may occasionally be traced to a previous syphilitic process of this kind.

Finally, I have to mention the occurrence of actual (*laryngeal*) paralysis. This paralysis may be either of a local or of a distant origin. Thus, for instance, you would not be surprised to see unilateral or even bilateral abductor paralysis, if a gumma happened to develop within the muscular substance of the posterior crico-arytenoid muscles themselves. A very interesting case of that sort was some years ago reported by Dr. Dreschfeld, of Manchester. On the other hand, needless to say, any syphilitic process, from the medulla downwards, which in its progress has attacked the spinal accessory, vagus, or recurrent laryngeal nerves, may lead, if destroying or compressing the nerve affected, to more or less complete paralysis of the corresponding vocal cord. A most instructive case of that kind was observed some years ago in our department. A woman, aged about 48, came complaining of difficulty in swallowing, stating that she felt an obstruction corresponding to the upper part of the sternum. The patient looked very sallow and cachectic. An œsophageal bougie was passed easily, but very unexpectedly, inasmuch as nothing pointed to a laryngeal affection, paralysis of

the left abductor was found. The examination of the rest of the body yielded perfectly negative results. I naturally at first attributed the dysphagia and the laryngeal paralysis to the probable existence of an infiltrating œsophageal carcinoma, which was supposed to have already implicated the left recurrent laryngeal nerve, but not yet occluded the lumen of the œsophagus. Although there was no syphilitic history, iodide of potassium was prescribed, but no appreciable improvement ensued. Within the next few weeks, however, gradually ptosis of the left eyelid, paralysis at first of the left external rectus, later on complete left-sided ophthalmoplegia developed; this was followed shortly afterwards by sensory troubles in the mucous membrane of the left cheek; then the patient got deaf on the left ear; subsequently the left facial nerve became paralysed, and thus gradually one of the left cranial nerves after the other were attacked. By this time it had, of course, become obvious that the lesion was not a peripheral but a central one, and the diagnosis of syphilitic pachymeningitis was made. The patient was taken into Charity Ward, under Dr. Bristowe, and energetic mercurial inunction, combined with the internal use of iodide of potassium in large doses, effected an improvement extending over several months. Afterwards, however, the symptoms returned with greater intensity, the right cranial nerves also became affected, and the patient died comatose. At the post mortem it was found that the patient had indeed suffered from syphilitic pachymeningitis, most of the cranial nerves on both sides being embedded in a half-gelatinous, half-fibrous mass, which had partly compressed, partly destroyed them as they left the cavity of the cranium through their foramina.

Here, then, you have a most interesting example of a syphilitic laryngeal paralysis forming the first onset of the chain of symptoms characterising one of the most severe forms of constitutional syphilis.

I have so far summed up the changes which may take place in the different manifestations of syphilis of the larynx. I now come to the question of diagnosis. The golden rule, which I hope you will observe in all cases of suspected syphilis, is that you ought to trust the evidence of your own eyes more than any history of the case! This is generally appropriate to the practice of medical men in all diseases, but it holds good with double force in all syphilitic affections. But too often patients are simply asked if they have had syphilis, and on their replying in the negative the medical man entirely dismisses that idea, as a result of which irreparable damage may be only too easily done. Whenever there is a suspicion of syphilis in a case, you must not forget that there are three very different circumstances, owing to which you may be deprived of getting a really trustworthy history. In the first place the patient may decline to admit his having had syphilis from a sense of false shame; in a second class of cases the patients really do not know what you mean. This is especially true in the case of women, and I would therefore urge you on inquiring into the previous history of a suspected case, not to use too technical expressions: sometimes the patients do not understand the question, they do not like to ask you what is really meant, and simply reply in the negative. Needless to say, you must be very careful in the form of your questions, which, unskilfully put, may

in the case especially of married men or women, destroy the happiness of a family! In doubtful cases make inquiries as to the previous occurrence of skin rashes, of ulcers on the tongue or in the throat, of eye affections, of falling off of the hair, of periosteal pains, of miscarriages, etc. Then, thirdly, never forget a practically most important possibility, viz., that the patient may *bona fide* not know that he had had syphilis! The disease, you must remember, is one of the most insidious existing, and the virulence of the various stages in one and the same case does not necessarily stand in any definite proportion to one another. You might meet a man whose primary chancre represented a single pimple or was a urethral one and mistaken for simple gonorrhoea, and who might indignantly refuse to admit that he ever had any syphilitic affection at all; yet in his case very serious secondary or tertiary lesions might result. If such a patient, being pressed on the subject, most definitely answers in the negative, this ought never to induce you to mistrust the evidence of your own eyes. I could give you, if time permitted, quite a series of instructive cases to prove my point, but I will only mention one, which occurred quite recently in my own practice. A leading London practitioner brought me a near relative of his, a gentleman aged about 40, married, and the father of a healthy family, who had been suffering for some time from almost complete nasal obstruction. The nose was externally considerably swollen and red, but not particularly tender on percussion. Internally both nostrils were filled with sanious pus; this being wiped away, masses of soft, easily bleeding granulations were seen, intermixed with extensive and deep ulcers on the septum and on the turbinated bones. A probe being introduced, rough cartilage and bone were felt almost along the entire length of the septum. On inquiring into the previous history there was not the least evidence of any syphilitic trouble, and the patient, a man of the world, who was most anxious to be cured, repeatedly assured me that he would not hesitate for a moment to admit such if he had ever had a manifestation of that disease. I was, however, firmly convinced, in spite of all this, that I had to deal with a case of tertiary syphilis of the nose, and gave him iodide of potassium with liquor. hydrarg. perchloridi for a fortnight, after the lapse of which time I saw him again so much improved subjectively and objectively, that one would hardly have believed the case to be identical with that seen so shortly before.

Coming now to the question proper of diagnosis, I have first to speak of the subjective symptoms. They will of course entirely depend (a) upon the localisation, (b) upon the intensity of the syphilitic manifestations. Thus, whilst even a simple syphilitic catarrh might draw attention to something being wrong by the hoarseness it engenders, a large gumma, when situated at some distance from the vocal cords and from the respiratory and alimentary passages might for a time entirely escape attention. Of course if there should be any considerable swelling within the lumen of the larynx or trachea, due to infiltration, to a circumscribed gumma with oedema in its neighbourhood, to fibroid thickening, etc., or if, as a result of ulceration and of subsequent treatment, membranous adhesions should be formed diminishing the lumen of these parts, or if bilateral

ankylosis of the vocal cords should take place in such a position that the vocal cords lie very near one another, or if a gumma should develop in the substance of the posterior crico-arytenoid muscles, and cause double abductor paralysis—considerable and not rarely serious dyspnoea might very quickly be developed, necessitating the performance of tracheotomy. I have already mentioned that pain most commonly is entirely absent, and is rarely considerable; still you must never forget that in any affection in which the terminals of the sensory inner branch of the superior laryngeal nerve may become affected, either localised laryngeal pain or even irradiated pain shooting into the ear and communicated through the auricular branch of the pneumogastric nerve may occur, and this certainly holds good also in rare cases of syphilis. Cough also is but a rare symptom, but especially during the ulcerative stages the patient often complains of excessive accumulation of phlegm, and should there be erosion of a small vessel in the course of the breakdown of an infiltration from a gumma, hæmorrhage also may occur. Finally, dysphagia may be caused by a large gumma on the epiglottis, or on the posterior surface of the cricoid cartilage, or by cicatricial contraction following ulceration in either of these localities.

The objective symptoms I have already treated in discussing the various forms in which syphilis may occur in the larynx, and you will have seen that they are of such Protean manifoldness, that no description of what may be called a typical case can be given. Whilst in the secondary stages simple redness of the vocal cords or some flat yellowish excrescences on the epiglottis (condylomata) may form the only objective sign, in the tertiary stage you may see a general infiltration of one half of the larynx in which all the constituent parts of that side may appear to have perished, or you may be confronted with a series of small nodules of a larger semi-globular, pale yellow one, surrounded by an area of bright congestion or even oedema. Or you may see extensive and deep ulceration affecting the whole of the soft parts and eating away even the cartilages, or there may be great thickening and immobility of one or of both crico-arytenoid articulations, or a membranous adhesion may have taken place between parts or almost the whole of both vocal cords. Or you may have—and this especially in relapsing cases in which formerly treatment had been adopted—a mixture of all the conditions described, to which finally may be added in an otherwise intact larynx immobility of one or both vocal cords, if the syphilitic process which causes this paralysis is situated at some distance from the larynx itself. Needless to say, in all cases laryngoscopic examination will be indispensable for arriving at a correct and accurate diagnosis.

I have only to add a few words about the forms of congenital syphilis in the larynx. As already mentioned in the beginning of this lecture, the hereditary form shows itself either shortly after birth or again about the time of puberty, and the disease may occur either in the shape of the slighter manifestations of the secondary period or more rarely in the tertiary forms. I had once a sad opportunity of demonstrating before the Pathological Society two larynges of two little brothers, aged 5½ and 3½ respectively, both of whom had died within a few weeks

of each other from the same acute complication of hyperplastic syphilitic laryngitis, viz., from acute laryngeal oedema. Fortunately cases of this sort are exceedingly rare.

I now come to the question of differential diagnosis. The two affections most likely to be confounded with syphilis are (a) tuberculosis, and (b) malignant disease of the larynx.

With regard to the first, the diagnosis sometimes is easy enough, whilst in other cases it offers considerable difficulties, but the following points will help you to arrive at a correct diagnosis:

(1) There is the *colour*. Whilst tubercular affections of the larynx are distinguished, as a rule, by the *pallor* of the affected parts, a pallor which precedes the development of infiltration, and which persists throughout all stages, even through the ulcerative one; in syphilis, on the other hand, the laryngeal affections bear a decidedly *inflammatory* character. Thus, whilst the phthisical ulcer shows no inflammatory reaction in its neighbourhood, the syphilitic is, as mentioned before, surrounded by a zone of considerable congestion, often of oedema.

(2) The development of the tubercular ulcer is *slow*, whilst that of the syphilitic is very *rapid*.

(3) Whilst the phthisical ulcerations, especially at the beginning, before they become confluent, are usually *small*, *numerous*, and situated on *both* sides of the larynx, the syphilitic ulcer, which from the very first is, as a rule, much *bigger* than the tubercular ones, is usually *solitary* and *unilateral*, though occasionally a few distinct syphilitic ulcers may co-exist in the larynx.

(4) The syphilitic ulcer, as a rule, is much *deeper* and more *sharply limited* than the tubercular ones, which gives the part a more *worm-eaten* appearance.

These points, taken together with the co-existence of on the one hand syphilitic, on the other hand, tubercular lesions in other parts will, as a rule, enable you to arrive, without much difficulty, at a correct diagnosis. It must not be forgotten, however, that syphilis and tuberculosis may *co-exist* in the larynx, and under such circumstances all the usual appearances being blurred, the diagnosis may become enormously difficult. Cautious use of iodide of potassium will usually assist you in detecting the simultaneous existence of both diseases by improving the syphilitic manifestations.

Then as to carcinomas, the appearances again may be very similar in both affections, especially if the malignant new growth shows itself in an infiltrating form. But here again the use of iodide of potassium, which in all cases of a doubtful nature ought to be the drug at once resorted to, will as a rule quickly clear up the difficulties which otherwise may be very considerable. I vividly remember the cases of two patients who happened to enter my consulting room, one immediately after the other, not long ago. Both were men of about 50, in both cases difficulty in swallowing was the symptom most complained of, and in both cases an infiltration in the inter-arytenoid fold, just occupying the border between the larynx and oesophagus, was seen with the laryngoscope. The appearances were so similar that the cases appeared to be as it were twins. In neither case was there any considerable cachexia or any swelling of the cervical glands, and in both cases there was no distinct history of syphilis. Yet

iodide of potassium being at once given in both cases, one patient was cured within a few weeks; whilst in the other one, after a short temporary improvement, the unmistakable symptoms of malignant disease developed, to which he ultimately succumbed. This is a good illustration of the difficulties one is sometimes confronted with in such cases, and I would here take the opportunity of warning you against being deceived by a *temporary* and *subjective* improvement under the use of iodide of potassium; not rarely the congestion present also in the neighbourhood of malignant new growths is for a while favourably influenced by this drug. It may be remarked that the absence of glandular swellings in the neck and of pain is by no means a reliable sign for differential diagnosis between tertiary syphilis and malignant disease of the larynx, though, on the other hand, if *considerable* enlargement of the cervical lymphatics should take place, this is much more characteristic of malignant disease than of syphilis. Of course if the cancer should start as a well-defined tumour, or if even in the ulcerating stage very great tumefaction should be present on the margins of the ulcer, not much diagnostic difficulty will be encountered. In other cases, however, the diagnosis may for a considerable time remain very doubtful, and in such cases repeated examination of the expectoration, with a view of discovering the characteristic elements of cancer, may be useful. Generally speaking, however, the effects of anti-syphilitic treatment will soon clear up all doubts.

We now come to the questions of prognosis and treatment. With regard to the former, it may fairly be said that, unless the patient comes in the very last stage of perichondritis, the prognosis is good so far as life is concerned; but with regard to function, if irreparable damage has already been done, i.e., if the vocal cords have been destroyed, or if a general fibroid stenosis or ankylosis of the crico-arytenoid articulations have been developed, etc., the question of restoration of function is, needless to say, extremely doubtful. Often enough such patients are compelled to wear the canula for life if tracheotomy should have been performed at an earlier period, and you ought not to forget that even during the process of healing the danger to life may become greater than during the actual ulcerative stage of the disease, in consequence of the development of cicatricial stenosis under the influence of the anti-specific treatment.

As to the treatment itself, the following may be said: The general belief is that mercury is the remedy for all stages, whilst a large number of the profession look upon iodide of potassium as the most powerful aid in the late or tertiary stages of the disease. It is, however, impossible to lay down hard and fast rules, as I pointed out already in 1882. Some cases of what would certainly seem to be secondary affections will not be influenced by mercury, but yield to iodide of potassium; and again, some cases of the late or tertiary stages make little progress under the influence of the latter drug, but quickly heal under an energetic mercurial treatment. Again, there are cases of tertiary syphilis in which the iodide of potassium, although acting like a charm, only yields a temporary influence, and in which the patients are compelled to live, as it were, on that drug. We often see a patient here, in the Out-patient Room, who has done so

for the last twelve or fourteen years. He suffers from recurrent hyperplastic syphilitic laryngitis, ushered in by infiltration and superficial ulceration. Repeated courses of mercurial inunction have hardly had any effect; whilst as soon as he takes iodide of potassium he at once improves, but within a shorter or longer period the ulceration occurs again. In such cases the iodide is the only thing to keep the disease, as it were, under some control. Finally, there are cases, in which the *alternating* use of mercury and iodide of potassium is followed by very good results.

The general outcome of my remarks therefore is that you ought to be guided in every case by its particular exigencies with regard to the treatment to be adopted. In an average case of secondary syphilis manifested by catarrh of the larynx, with other symptoms of the secondary stage, I should, of course, begin by giving mercury; but I must confess that I am not a great believer in the administration of mercury in small doses continued over a long space of time. I know that some of the greatest authorities on syphilis hold a different opinion; but having not rarely seen patients with very severe tertiary manifestations, who had for years and years gone through that treatment, I certainly have come to the conclusion that this method does not act as a reliable check upon the development of the more serious forms.

The mercurial treatment which I generally follow is that recommended by Zeissl, of Vienna, and is as follows:

Twenty grains of mercury ointment are daily rubbed into various parts of the body. On the first day the ointment is to be applied on the skin of the neck over the larynx; second day to the inner surfaces of both upper arms; third day to the inner surfaces of both thighs; fourth day to the inner surfaces of both forearms; fifth day to the inner surfaces of both calves; sixth day to the skin over both loins, and seventh day to the skin of the back. This series is to be repeated four or five times according to the exigencies of the individual case, each series being preceded and followed by a warm bath, and astringent gargles being used during the whole time, in order to avoid the occurrence of mercurial stomatitis.

This method of using mercury you will find useful in all stages of syphilis, from the primary to the tertiary included. In tertiary cases, however, I usually, especially if the case be urgent, give at the same time iodide of potassium internally, beginning with ten grain doses three times daily, and increasing this to thirty or even forty grains *pro dosi*. Some people object to the continued use of large doses of iodide of potassium, on account of its supposed depressing influence. I myself am not afraid of its use, and especially not in cases of syphilis, in which as a rule the patients actually thrive while taking the drug. I do of course not deny that there are some patients who have a specific idiosyncrasy against the drug, but this may be often minimised by combining the drug with aromatic spirit of ammonia and a quinine preparation, and by administering it in considerable quantities of water. It is only in very exceptional cases that I have seen iodide symptoms occur when these precautions were used.

If the patient belongs to the upper classes, I like to send him to Aix-la-Chapelle, not because I imagine that they possess any mysterious power there, which we have

not here, but because they have the opportunity of combining the treatment, as sketched above, with the simultaneous use of their hot sulphur baths, so that the mercury is pushed much quicker through the system than under ordinary circumstances, and general mercurialization is avoided. Moreover, the patients live there more exclusively for their health for a time, than they would do if the treatment were carried out under ordinary circumstances, which, often enough, you will find is extremely difficult.

Generally speaking, I do not make local applications to the larynx in cases of syphilis, except in obstinate catarrh. I have been brought up myself in a school in which such applications were considered most important; but since I have gradually discontinued them, and relied upon constitutional treatment only, I cannot say that the improvement has proceeded more slowly in my cases than in former days.

The treatment of the congenital variety of syphilis is the same as that indicated for the acquired form, only that smaller doses are administered.

In cases of acute or chronic syphilitic stenosis, surgical measures may of course be required. Thus, if a quickly developing gumma should practically fill up the larynx, or, if the oedema, in the neighbourhood of a syphilitic ulcer, obstruct the air passages, tracheotomy or intubation may suddenly become necessary. As a rule, however, you will find in these acute cases that even if appearances be very threatening, the immediate institution of energetic constitutional treatment will do away with the necessity of surgical measures. In cases of chronic stenosis, on the other hand, such as are due to general hyperplastic thickening, to the formation of membranous adhesions, to bilateral ankylosis of the crico-arytenoid joints near one another, etc., tracheotomy may ultimately become unavoidable, and some of these patients, as already mentioned, may have to wear the canula for the rest of their lives.

The employment of Schrötter's method of treating these forms of chronic stenosis by vulcanite tubes introduced from above without tracheotomy being performed, or of zinc plugs to be left for gradually prolonged periods in the larynx after the operation has been performed, will in some cases, if perseveringly enough carried out, ultimately dispense with the necessity of the permanent use of the canula; it must however be confessed that this treatment not merely demands considerable manual skill, but an uncommon degree of perseverance on the part of both practitioner and patient, and even if for a time apparently quite successful, the unfortunate proclivity of syphilitic scars to further contraction often subsequently spoils all the results obtained by long-continued treatment.

Membranous adhesions, etc., may be divided by intralaryngeal operation, but here again you will encounter the same tendency to reproduction of the stenosis of which I have just spoken. In a few cases even partial laryngectomy and excision of the whole scar tissue has been performed under such circumstances, in order to enable the patients to dispense with their canula. It seems, however, doubtful whether such heroic measures can be recommended, as the operation itself certainly is not free from risk.

A CLINICAL LECTURE ON TWO CASES OF HERNIA.

Delivered at St. Mary's Hospital, Dec. 10th, 1892,

By HERBERT W. PAGE, M.A.,
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As this will probably be the last lecture I shall give before Christmas, I hope I may be allowed to begin with a little poetry. Tennyson wrote, "No two dreams are like," and I have often thought that if we were to substitute the word "herniæ" for the word "dreams," we should say that which is equally true: "No two herniæ are like." This is in accord with my own experience, and I know that it was a remark of no less a surgeon than the late Mr. Spence of Edinburgh, who had had perhaps in his time a larger experience of hernia than any man, that he could never with certainty predict the exact condition he would find when operating for strangulated hernia.

This general fact may be illustrated by the last two cases which we have had in our wards during the past fortnight, and which I propose to take as the text of my remarks this morning. Practical points both of operation and treatment, on which I shall speak, they had of course in common; but as far as the herniæ were themselves concerned, it is difficult to imagine two cases more absolutely unlike.

The first case was that of a young man, 27 years of age, who came here on November 30th with, as it was believed, a right *strangulated* inguinal hernia. He had had a hernia from childhood—as long, in fact, as he could remember; and we, therefore, came to the conclusion, rightly as it turned out, that it was in all probability of the congenital variety. It had never, as the notes taken by Mr. Garriad say, descended into the scrotum, and he had never had it treated. Whilst exerting himself on the railway—lifting a lever—he strained himself, and felt severe pain in his right inguinal region. This was only seven hours before he came to the Hospital, and, happening to be there, the moment I saw him I sent him to the theatre. In his scrotum was a huge globular swelling—the size of a cocoonut, dull on percussion and quite opaque. The man had not been sick, and did not seem very ill. As soon as he was under the anæsthetic we tried if gentle taxis had any effect in reducing the size or altering the shape of the swelling, but such pressure as we thought it right to employ during half a minute produced no impression upon it, and we, therefore, proceeded to operate after he had been shaved and cleansed. Having incised the skin by transfixion in the usual way, I made my way down to the sac with my fingers, and, as is my custom, opened the sac by gentle teasing with forceps. A considerable quantity, as you saw, of clear slightly blood-stained fluid immediately escaped, and the opening having been enlarged, there came out a coil of small intestine considerably

more than a foot, say from 15 to 18 inches in length. The bowel was of a pale red colour, and was enormously distended with gas. This in itself was somewhat unusual; but what was more extraordinary was the fact that our taxis had caused no diminution in the distension of the gut, extraordinary because the ring through which the hernia had escaped from the abdominal wall was so large and free as to admit the ends of three fingers. There was, indeed, no true strangulation of bowel at all.

Now, what was the explanation of this condition of things? The fact is that the great length of the coil of small bowel in the hernia was really due to the circumstance that in this particular individual there was an unusually long mesentery. The mesenteries of different persons differ widely in length, the range of excursion of the mesentery varies greatly; and it is obvious, if this be so, that a short mesentery will not admit of the same risk of escape of bowel, or to the same extent, as one which is long and lax, and which can be moved easily from one part of the abdominal cavity to another.

The long coil of bowel in this case had with it an unusually wide mesentery, which filled the inguinal canal. But how was it that, notwithstanding the freedom of the canal, and the absence of anything like strangulation, the bowel was so distended and could not straightway be returned into the abdominal cavity? Those who saw the operation will remember how much difficulty there was in returning it. I believe the sole reason to have been that in the descent of the bowel and the mesentery, the whole mass had got a half turn or twist over, in such a way that while flatus might accumulate in the coil descended, it could not pass on and escape into the bowel beyond. When I undid this turn, the flatus could be displaced, the bowel gradually collapsed, and was reduced with comparative ease.

It was this and the vast distension with gas, that prevented return of the bowel. The hernia was in fact irreducible; it was never a strangulated hernia in the true sense at all.

We had a case of this sort some years ago which, at the time, we used to speak of as the "jelly-fish" case, because the piece of mesentery, which had been in the habit of escaping with a coil of bowel, was long, large and thick, and in process of time had come to be somewhat like a jelly-fish, a large flat mass, which one day effectually prevented reduction, though there was no real strangulation when we were called upon to operate. So remember this, that amongst the contributory causes of hernia may be laxity of the

mesentery, and the possibility of a wide range of its excursion.

The operation was completed in the usual way, that is now-a-days, by a radical cure at the same time. It was hopeless to separate the structures of the cord, and so I removed the atrophied testis, and all cord and sac structures were ligatured as high up as possible. The wall of tissues which blocks the opening at the internal ring will be a source of security against hernia in the future, and it was with that object in mind that the testis was removed.

Case 2. The second case, as I have said, is vastly different from the first.

Here we have a woman, 50 years of age, but looking much older, who came to the hospital on the 7th Dec. Her history was that she had had a hernia in the left femoral region for 14 years. It had never troubled her much, and only occasionally had she worn a truss. On Sunday, the 4th, three days before, she was sitting over the fire after breakfast, when she was seized with a sudden pain in the region of the hernia. Soon afterwards she began to vomit, and vomiting had been frequent until she was brought to the hospital. It was also said that the vomit had become feculent. Her bowels had been confined since the middle of the previous week. We found a small lump about the size of a damson in the femoral region. We did no more than touch it, and felt it to be hard. Predicting that probably we should find a piece of omentum with perhaps a small knuckle of gut deep down in the crural canal, I proceeded forthwith to explore it by the usual incision. The skin having been divided, the knife was laid aside, and the forceps taken in hand to pick a way into the sac. I did so with the utmost gentleness and care, for the sac was very thin, and the hernia had been down three days. Having then made an opening into the sac, we found that there was no space or room at all for fluid, but that in immediate contact with the peritoneal surface was lying a small knuckle of intestine. It was of a dark brown chocolate colour, and the little protruding piece, of the size and appearance of a cherry, was as tense as could be. No case could more forcibly have shown the need of excessive care in opening the sac. With a sac so thin as this, and with its whole cavity filled by the bit of bowel, how easily might the gut have been wounded by the knife!

The appearance of the bit of bowel thus exposed led me at once to think that we had to do with a Richter's hernia. I dare say you know that by Richter's hernia we mean that variety in which a part only of the circumference of the bowel is strangulated and involved in the hernia. An excellent account of this hernia by Mr. Treves is to be found in a recent volume of the "*Medico-Chirurgical Transactions*," and by him it has been established that this kind of hernia ought to be known by the name of Richter, who first described it.

At any rate part only of the circumference of the bowel, which is usually small intestine, is in the hernia, and thus the whole lumen of the gut is not necessarily obstructed. The protruded portion varies of course in size in different cases, and on this it depends how much or how little of the lumen of the bowel is obstructed. Look at this knuckle of my bent forefinger as I hold it up, and

you can see at once that the degree of obstruction to the lumen, represented by the finger, must depend on the size of the portion of knuckle which lies beyond the point of strangulation. If a small piece protrude the lumen will not be much diminished, but if a large, the lumen may be almost, if not entirely, closed. In no case does the whole circumference escape in the true Richter's hernia. In this particular instance it seemed as if nearly, but not quite, the whole loop had been drawn into the hernial sac, and that there must have been great constriction of the lumen of the gut. Even in cases where the lumen of the intestine is not completely obstructed, this form of hernia is a very dangerous one: it comes through a small opening, and the protruded portion, which is always that part of the bowel furthest from the mesenteric attachment, is likely to be tightly nipped, and seriously damaged in a very short time.

Now we did in this case what has always to be done, release the bowel by a small snick of any structure—here it was the crural ring—which has caused the strangulation, and which interferes with its return into the abdominal cavity. You must never forget, however, to do something more than this: having released the bowel, you must draw it down to see what amount of injury has been inflicted on the parts where the constriction has held it. Never return bowel into the abdominal cavity until this investigation has been made.

No such degree of injury was found in this case as to warrant us in not returning the bowel into the abdomen. We therefore reduced it forthwith, cut off the sac in the usual way, and sent the patient back to bed.

With regard to this particular kind of hernia, which is called "Richter's hernia," there is much difference of opinion as to the way in which it is formed. Some have suggested that the protrusion of the piece of gut is due to adhesion between the gut and the sac, and that by this means the bowel has been drawn out of the abdomen. This explanation does not, however, always hold good, for there is frequently no such adhesion. In this case of ours, as you know, there was none. I will not trouble you with other recorded explanations, but will tell you what is my own. When I have seen a piece of gut lying as we saw it in this patient, it has always looked to me as if the bowel had been sucked out of the abdominal cavity. You will ask, How could suction have been applied? It has seemed to me conceivable that when a coil of bowel

came by chance to lie just at the upper abdominal end of a small sac, the movements of the patient might impart such alterations to the shape of the sac as to compel the bowel to be drawn into it by a force akin to that of suction. If you could hold a coil of intestine in front of your mouth, with your lips drawn together, and were to suck, I think a portion of the circumference might be drawn into your mouth, much as we see it in a Richter's hernia. Of course there is no means of demonstrating this on the living subject, and the explanation may seem to you utterly ludicrous, but still I think that suction may explain this particular form of hernia of the bowel.

I have said that these two cases of hernia were widely different from each other: now let me say a word on one or two practical points common to both of them. And firstly, as to taxis.

If you take up works on surgery—say, of twenty-five or more years ago—you find chapters headed, it may be, "Of the Taxis," and you are told the way in which taxis ought to be applied. It is right to say that on reference to these books you will see that the writers, such as Lawrence, for example, in his "Treatise on Hernia," give most careful warning against violence in the use of it; and had people only followed the advice so given, surgeons would not have seen the serious results of taxis that have fallen from time to time under their notice.

When I was house-surgeon at the London Hospital it used to be the custom—I cannot say what is the custom now—to give an anæsthetic if needful, and to employ taxis before sending for the surgeon to operate. To my own house-surgeon I say, "Do not employ taxis, but send at once for me," and when I have arrived we hardly resort to it at all. What is the reason for this change in practice? The whole thing is due to the cleanliness and the freedom from septicity under which we now operate, so that whereas the mortality after operation for strangulated hernia used to be very high indeed, most of our patients now-a-days recover, and the operation gives us very little anxiety. Because the operation is now so safe there is less occasion for the use of taxis, which we know to be fraught with danger to an inflamed or damaged piece of bowel. And this avoidance of taxis again in turn makes the results of operations much more satisfactory. So far then as taxis is concerned we may say this: we avoid it whenever we can because we have nothing to fear

from operation, while in the old days taxis was largely resorted to that the surgeon might avoid operation. You know, I have no doubt, that there used to be considerable difference of opinion as to the propriety of opening the sac. If the sac was opened there was the risk of septic peritonitis, if it was not opened then there was the risk that the surgeon returned damaged bowel into the abdominal cavity. But whether the operation was done in the one way or the other it was almost invariably after prolonged taxis. For curiosity I looked this morning to see what Spence said as to taxis, and I found this, that although the surgeon should be above all things careful never to employ taxis with such a degree of violence as to injure the bowel, yet it should never be prolonged for more than half an hour. Beyond half an hour! And here are we discussing whether it should be for more than half a minute. Why this difference? The answer is, that we can operate now without risk; we are not afraid of opening the peritoneal cavity, we always like to see the bowel, and to know when it may safely be returned, and when it may not. The surgeon is thus saved from the necessity of using taxis at all, unless there be some special reason, as doubtless there sometimes will be, for not resorting to operation. But in the majority of cases the less you have to do with taxis the better, the sooner operation is resorted to, and the shorter the time you allow to elapse since the hernia first began, the better will it be for the patient, and the greater is the likelihood of permanent cure. Taxis by no possibility could have done anything but harm in the two cases related this morning.

Now, as to the manner of dealing with the bowels after operation, a point on which questions have often been put to me at the bedside, I would say that, generally speaking, they had very much better be left to themselves. When the intestine has been nipped and injured by the strangulation, it is, in all probability, more or less paralysed at, and in the immediate neighbourhood of, the place where the injury has been inflicted, and some time must elapse before peristalsis can be restored, and therefore before the bowels can act spontaneously. No harm, however, will be done if they lie quiescent for a week or longer; for it is well that the abdominal cavity, as well as the wound, should be as little disturbed as possible. You cannot, however, always do what you would like to do in the way of treatment; and supposing that a patient is suffering much abdominal discomfort from the accumulation

of fæces or flatus, then I think it is better that there should be an action of the bowels, even though some helpful measure has to be resorted to, as early as within two or three days of the operation. For this purpose a simple soap and water injection—not aperients—should be used. It will often happen that after an action has been induced in this way, perfect comfort and quietude will follow. Moreover, even if there be no desire for movement of the bowels, the patient may suffer much from flatus which he cannot expel. Before you resort to injections or aperients, remember that one of the simplest and most efficacious ways of dealing with his trouble is to change his position. Turn him over gently on his side, or raise the upper part of his body, and he will then very likely be able to get rid of the flatus without much straining or difficulty. There are other cases in which, notwithstanding what we do or abstain from doing, the bowels insist on acting soon after the operation, in spite of our desire that the patient should have perfect quietude. His rectum has been loaded with fæces before the operation, and he can have no comfort until it is empty. He asks incessantly to have his bowels moved, and you cannot forbid him; only take care that if at this time, by any chance, the dressings are fouled, you immediately renew them after the action is over. We no longer think it necessary that a man should defæcate under the spray, a refinement of bygone days, but we do say that dressings should be renewed directly after the bowels have been moved. We thus preserve the wound from one source of septic contamination. These are the sorts of troubles you may have to meet; but in the general run of cases the less you concern yourselves with the action of the bowels, and the more you leave them to take their own course, the better it will be. At any rate avoid aperients, and trust to a simple enema of soap and water if you have to adopt any special treatment at all.

December 28.—Note: Both patients are well.

Menthol for Vomiting of Pregnancy:

Dr. Bosse recommends the following prescription for severe vomiting of Pregnancy:—

R. Menthol. gr. j
 Spt. Rectificat. ... ℥ xxx
 Dissolve and add—
 Syr. Aurant. ℥ xxx
 3j every two or three hours.

(*Allg. Med. Cent. Ztg.*)

A CLINICAL LECTURE

ON

PUERPERAL SEPTICÆMIA.

By EDWARD MALINS, M.D., M.R.O.P.,

Obstetric Officer to the General Hospital, Birmingham.

AMONG the circumstances which occasionally mar the equilibrium of a successful practice in midwifery, none are more formidable, or more calculated to excite apprehension than Puerperal Septicæmia. The subtlety of its invasion, the often rapid character of its progress, the frequent futility of all efforts to control it, combine to make its appearance a source of infinite anxiety and alarm. Non-professional persons are very apt to catch expressions or phrases used by medical men; if you are wise and politic you will never use the term *Puerperal fever*. It creates fear, and frequently panic. Besides being meaningless and harmful, it is wrong, and embodies error. The adoption of the term cannot be defended by authority or supported by reason; do not, therefore, countenance its use, but discard it altogether.

It is now generally admitted that the presence of decomposing animal matter in the blood, is capable of producing poisoning, attended by fever, and a train of characteristic symptoms, known as septicæmia.

To the zealous labours of Semmelweis we are largely indebted for the recognition of this essential fact, and the importance of acting upon it. Lately, attention has again been drawn to his work, and his memory has been justly honoured. The use of disinfectants and strict antiseptic measures in the practice of midwifery, both by lessening the mortality, and preventing complications, has proved, beyond doubt, the truth of the principles he enunciated with so much earnestness. The terrible mortality of the past has yielded to the influence of increased knowledge. A change amounting to a revolution, unequalled in any other branch of our art, has taken place in the conduct and treatment of lying-in women; an alteration marked by success, which amply justifies the credit due to the patient workers who have devoted themselves to so great a cause.

What is spoken of as Puerperal fever does not exist as a specific disease. The dictum, that there is no fever in the Puerperal state which may not happen at other times, was the basis of advance

against the opinions previously entertained, that it was a distinct disease peculiar to the lying-in state. The essential factor is, in reality, the presence of micro-organisms. Various forms of these have been described, and their virulence fully attested; it is to the activity and changes in these, under appropriate conditions, that the spread of the disease is due. Bacteria are found in the vagina, and generally in the cervix too, but in health they cause no injury; under similar conditions the lochia, also, are innocuous, and continue so, except under the influence of introduced organisms. In addition to this form of infection from without, there may be another mode of septic poisoning—or septic intoxication—produced by the effects of decomposing products, associated with bacteria, changes of an intricate organic kind, resulting from chemical transformations in the tissues. Whether, therefore, pathological germs are introduced from without, or whether certain toxic products are engendered from within, there exists in all parturient women conditions most favourable to the designs of such agencies. On all parts of the genital organs, abrasions are common in the later months of pregnancy; excoriations, cracks and ruptures in the mucous membrane of the vagina or orifice are present in the majority of cases. During labour these are intensified, so much so, that it is hardly possible for the process to be completed without some breach of tissue, more or less, in some part of the genital canal. Such testimony is sufficient for showing the opportunities that exist for absorption of offending products, which, under certain receptive conditions, develop with amazing rapidity.

In health, the powers of resistance are sufficient to prevent or repel any evil consequences. Deviations from this standard afford a fitting invitation to the activity of introduced germs. Fragments of retained placenta, bits of decomposing membranes, retained clots, give rise to offensive discharges, and afford a nidus for vicious changes in the secretions, the absorption of which by the ready channels offered, quickly makes its presence known on the system. Primiparæ are more frequently infected than multiparæ, owing to their greater liability to superficial wounds, the longer duration of labour, and the more frequent resort to instrumental aid. Protracted labours, abnormal labours, and nerve perturbations also favour the susceptibility and frequency of infection.

In the class of cases to which I would particu-

larly call attention the symptoms are not numerous, but when present they are very significant. Individually they are suggestive of something wrong; collectively they point to some profound disturbance not to be mistaken or passed lightly over. If you find a patient within a few days after her confinement with *high temperature, rapid pulse, quick breathing*, with no local signs on examination sufficiently palpable to account for it, you may be certain that she is about to pass through an important crisis. You may probably be further acquainted with the information that the pulse has never come down to the normal standard since the labour, that the patient has been sleepless, and that the rise in temperature has been progressive.

Where these indications are present in a patient who has had an exhaustive labour, undue hæmorrhage, or has been exposed to any of the conditions of septic absorption I have mentioned, you may recognise the fact that septicæmia is the cause of the symptoms noted. But it is not always that the inquiry extends so far as this; the labour may have been a good one, the lochia not suppressed or offensive, the secretion of the breasts favourable, there may have been no shivering, no local inflammatory signs—the three symptoms alone expressing the abnormality present. It is true that in the majority of instances there are some circumstances which arouse attention from the first, and which perceptibly drift on from bad to worse; but it must not be forgotten that it is possible for the patient to be apparently well for a day or two after the confinement, and for these symptoms to come on afterwards, often amid the congratulations of her friends upon her well-being.

In some acute conditions after child-birth the first deviation from the ordinary standard of progress is a rigor or chill. In septicæmia this is not by any means a constant occurrence; indeed, in uncomplicated cases, I think that it is exceptional, and that when it happens, and especially when it is repeated, you may look ultimately for the formation of pus in the neighbourhood of the uterus.

When the three associated symptoms I have stated become established it will soon be seen that others rapidly join the morbid train. There may be a dry red tongue, vomiting more or less severe, diarrhoea, often intractable; tympanites; profuse perspirations. As a rule the intelligence is clear, often preternaturally acute; more rarely it is dull and obtuse, and there is some delirium and wandering. In several deaths I have witnessed the

mind was lucid to the end; in others, in which recovery took place, there was much emotional disturbance under the apprehension of impending death; while others, again, became indifferent to the result. The accession of any additional symptoms to the threefold combination I have mentioned greatly increases the gravity of the case, and may be sufficient to turn the scale against the patient's recovery. Diarrhoea is always unfavourable, and most exhaustive; it is necessary to watch carefully to check it early and prevent its recurrence. It does not lower the temperature as might be thought, for this often rises concurrently with it. Tympanites is a bad sign: it is indicative of a great loss of power, and frequently points to the advent of peritonitis. I have been accustomed to look upon it as one of the worst features of this condition, for I have never seen a case recover where tympanites has been very marked in conjunction with the other leading symptoms of septicæmia.

The *treatment* calls for vigilant care and watching. The sum total of the poison is an unknown quantity; the path of recovery is indefinite and often tortuous. It may be (1) local, (2) general. Some local treatment is wise and judicious, but to be done effectively you must do it yourself. A high temperature favours decomposition and the multiplication of germs; therefore washing out the uterus is a prudent course. In normal labours I always douche the uterine cavity directly afterwards with a 1 in 2,000 perchloride of mercury solution, and then allow the nurse to wash out the vagina night and morning with a 1 in 4,000 solution. With a high temperature it should be done three or four times in the twenty-four hours, or until this is subdued. A 2 per cent. solution of carbolic acid answers very well, with the application of carbolised oil of the same strength to the vulva. It acts as a disinfectant, and has a local sedative action in allaying the smarting of superficial sores. Always use a glass tube, a glass catheter when necessary, and apply externally a wood wool pad, sprinkled with sanitas or thymol. Never, under any circumstances, forget to thoroughly wash the hands with soap and nail brush, and then well rinse them in a 1 in 1,000 perchloride of mercury solution, before making any examination. If instruments are used, dip them in the same solution first, and have the vagina washed out before applying them. On no account neglect these precautions; they are part of the responsibility in which you are engaged. Of course you will see that all the surroundings are

clean, and that the room is well ventilated. Do not ever use sponges for any purpose; pads of absorbent cotton, which can be burned afterwards, should be used also by the nurse in subsequent cleansing.

Of internal remedies, there are several valuable ones at our disposal. When the skin is dry and the pulse, though quick, of good strength, there is nothing equal to Warburg's tincture.* You must not expect good results from this unless you follow implicitly the directions for giving it. The chief directions are that the bowels should be moved beforehand, and that the tincture should be given undiluted without the presence of food in the stomach. Two teaspoonfuls is the dose, and this quantity is to be repeated in three hours. In the interval between the first and second dose, and for a few hours after the second dose, the patient must abstain entirely from food or drink. The taste is hot and empyreumatic, but it is not generally objected to by the patient. After taking it there is often free perspiration, the tongue becomes moister, the pulse softer, headache if present ceases, and the temperature is lowered. This may be followed by sleep, dark brown stools, and urine loaded with lithates.

Quinine is of great value. A full dose of 10 grains with 20 minims of hydrobromic acid and 20 grains of potassium bromide. In 8 hours you may give 5 grains more; the subsequent quantity must be regulated by the temperature, 2 grains every 2 hours, or 5 grains every 4 hours, according to circumstances, until the full physiological effect of the drug is produced.

Salicylate of soda ten grains every four hours with twenty minims of liquor ammon. acetatis is sometimes useful, but it must be carefully watched. Antipyrin and antifebrin may also be given: you must remember, however, that these things attack only the symptoms and do not strike at the cause of the disease.

The use of an ice cap is oftentimes an efficient means of reducing temperature and promoting sleep: it may be kept on for several hours at a time, or until the temperature is reduced. Stimulants are indicated when the pulse is soft and rapid: they should be given freely and the effect noted. The power of assimilating food is disturbed in all conditions of fever, therefore it should be

* An account of this is given by Dr. Broadbent in the "Practitioner," February, 1877, and by Dr. Maclean in the "Times," September, 1878.

given in small quantities and in a light form, milk, broths, eggs, jellies, and diluent drinks should be administered at intervals with regularity and discretion, for harm is often done by injudicious and indiscriminate feeding.

But after all prevention is better than cure: there are no class of cases where the truth of this proverb is more emphatic. For instance, you must exercise the greatest care in bringing to the lying-in patient any infection from erysipelas or scarlet fever. They constitute dangers, from their relationship to an allied origin of septic disease of a most dangerous kind; do not be misled because the association may be occasionally made with impunity, the time will come if you disregard the warning when the patient will either die or recover after a hair's-breadth escape. Your reputation will not be strengthened by such episodes, for there are many intelligent people outside the profession who understand and estimate these matters clearly; those who will not hold you guiltless if they judge rightly.

There is one more question upon which your opinion may be asked, and upon which you ought to have a decided answer for your own comfort as well. How long is it necessary for you to give up attending other confinements, when you have either a death, or cases of septicæmia, scarlet fever, or erysipelas under treatment? I am generally accustomed to say that a fortnight's quarantine, with change of clothes, the use of baths, and disinfectants is sufficient; I have always found it so.

If antiseptic treatment means anything it means this—that the terrors of child-bearing have vastly diminished since its adoption; that it has inaugurated an epoch which will leave a mark on our time, and be transmitted to posterity in terms of signal and grateful recollection.

For Burns of the Second Degree. (*L'Union Médicale*):

- R. Acid. Carbolic. ... ʒiij
Glycerini
Aq. Destillat ... āā ʒviij;
M. Ft. lotio. To be applied until blebs have formed. Then puncture the blebs and dress with following ointment:—
R. Iodoformi ... ʒj
Vaselini ... ʒx
Ft. unguent.

CLINICAL NOTES.

(Specially reported for *The Clinical Journal*. Revised by the Author.)

WITH DR. JAMES ANDERSON IN THE OUT-PATIENT DEPARTMENT OF THE LONDON HOSPITAL.

Basic Pleuro-pneumonia of Septic Origin.

This young man you will remember presented himself here last week complaining of feeling out of sorts. After I had examined him, his temperature was taken and was found to be 101°. He is better to-day, but the physical signs then present at the base of his left lung have but little altered.

If you listen here over the base of the left lung anteriorly you will hear crepitations, apparently quite close under the chestpiece of the stethoscope, especially at the end of inspiration. They are limited to this spot, the air entering all other parts of the lungs freely without adventitious sound. The crepitations last week were perhaps somewhat coarser and not confined to inspiration. There is no local dulness now, and there was none then. The man is of pale pasty complexion, but is sound as to heart and kidneys. His work as you have heard is of a dusty nature, and done in an ill-ventilated workshop.

These symptoms in my experience are not unusual, and I venture to say that they indicate a limited pleuro-pneumonia at the base of the left lung due to the chronic inhalation of dust and septic material.

Our patient to-day is not feverish; he simply complains of general malaise. Were it not for our routine practice of stripping all patients for their first examination, the condition of the lung would have been overlooked: the heart and the lung apices are normal.

The symptoms are I say not unusual, occurring at the left base in perhaps three-fourths of the cases, in the symmetrical position on the right side in the remaining fourth. It is rarely necessary to take these cases into hospital, and they do not die. You must take the clinical observation therefore for what it is worth. I have watched a few cases carefully from day to day. One case in particular occurs to me, a medical man, whose duty at that time kept him several days a week in a dark and ill-ventilated room. He had been "out of sorts" for some weeks, when one day he had a slight rigor

and his temperature rose to 103° , with a small area of crepitation at the anterior part of his left base. During the next few days the crepitation migrated slowly round the base of the lung, clearing up anteriorly, extending posteriorly, and ultimately subsiding after about three weeks. The condition is by no means always accompanied by fever, at least during the day, and there is usually no pain or dyspnoea except on exertion, simply a feeling of general malaise. I have never seen it develop into an extensive lobar pneumonia, but I believe I have seen the lung break down in a few cases and moderate hæmoptysis occur with prolonged ill health.

The cause of the condition I believe to be the inhalation of septic materials, whether with the air breathed, in close ill-ventilated rooms or workshops, or from the upper part of the respiratory tract. You will remember the case of a middle-aged man who came here a few weeks ago complaining of slight hæmoptysis, in whom we found this limited pleuro-pneumonia at the base of his right lung. I called your attention at the time to the fact that he had *ozæna*. And I have seen it also in patients with badly decayed teeth and diseased gums, and in cases of chronic follicular tonsillitis, with the foetid breath so commonly accompanying this condition from the putrefaction of the inspissated secretion retained in the tonsillar crypts. In this relation let me remind you of the more diffused and acute broncho-pneumonia of diphtheria and of surgical operations for cancer of the tongue and jaws, and also of the broncho-pneumonia of young children which I have for many years taught you is due not to cold but to air charged with septic material.

With reference to its usual site at the base of the left lung, it is interesting to remember that the pulmonary oedema due to heart failure either from valvular disease or from simple feebleness of heart muscle, begins in the great majority of cases, perhaps in nine out of ten, at the base of the left lung. I think this is not a mere accidental coincidence but that the passive congestion and general stagnancy of the bases resulting from feeble circulation and shallow respiration is the condition predisposing to septic infection of the lung where septic organisms find entrance. In this relation I would recall to you how frequently I have demonstrated to you the fine crepitation at the apices of children belonging to tubercular families, crepitation which disappears when we have made the patient breathe deeply and fully for several minutes, but

which returns again after a few minutes' rest. It is interesting also to remember how frequently the part of the *second* lung affected earliest in phthisis is not the apex but the base, perhaps quite as frequently the base as the apex.

If you wish to have a theory to keep the facts together for you, remember that the base of the left lung rests on the yielding stomach and is but little supported, while the base of the right lung rests on the comparatively unyielding liver and is fairly well supported. The fact, however, that early pulmonary oedema and this septic pleuro-pneumonia both occur in a certain proportion of cases at the right base indicates that this is but one element in the case.

As to Treatment. The first point is if possible to remove the cause, to see that the patient shall live and work in at least reasonably good hygienic conditions, with good ventilation; next, to remove as far as possible any source of infection in the upper air passages, such as *ozæna*, nasal ulceration, tonsillitis, decayed suppurating teeth, in general to get mouth, throat and nose in good hygienic condition. In addition, advise fresh air and exercise, and especially "respiratory gymnastics," conscious deep breathing with the shoulders well thrown back so that all parts of the lungs may be well filled, the pulmonary circulation vigorous, and expectoration freer and more thorough. As a general tonic and respiratory stimulant I prescribe quinine and strychnia, giving the quinine in gr.v doses twice or thrice daily in a cupful of milk when there is fever.

Cerebral Syphilis v. General Paralysis of the Insane.

This patient, aged 38 years, was brought to the out-patient department several months ago by his father on account of mental deterioration and awkwardness of his limbs. The knee-jerks were absent, his pupils smallish and inactive to light, his gait stiff, and his movements generally of irregular jerky character. We found definite evidence of old syphilis with disseminated choroiditis of specific type. The question lay between disseminated cerebral syphilis and general paralysis of the insane, *Tabes Dorsalis* being probably excluded. He was put on a vigorous course of Iodide of Potassium, and improved very markedly for the first six weeks, but you will remember I warned you that even if it was not G.P.I. we must expect to find the improvement stop short of real recovery, and it

has been so. Recently, the improvement has ceased. I do not think it is G.P.I. although it somewhat resembles it. He wants the characteristic tremor of the lips and speech on the one hand, and he has no grandiose ideas on the other side. The mental defect although considerable is not of the type occurring in G.P.I. It is a small point but very unlike G.P.I. that, as you may have noticed, he waited till I had finished writing before making his request for a certificate. A general paralytic as ill as he is would probably not think of asking for a certificate at all, or he would burst in with the request at some inopportune moment. The syphilitic sclerosis is probably disseminated, not so general as in G.P.I., and it will almost certainly last longer than G.P.I., but we shall expect practically no further improvement. Remember that G.P.I. is most probably an indirect distant result of syphilis just as *Tabes Dorsalis* is; neither of them are usually benefited by Iodide of Potassium and Mercury, although we very generally give them a short decided course of these when they come under treatment to clear the ground as it were of any tertiary remnants of the original disease.

Potassium Iodide in Chronic Nephritis with Syphilis.

This is a case of chronic parenchymatous nephritis with fairly copious albuminuria. He is taking Iodide of Potassium, you will see, although as you know, I think chronic nephritis of this form does not generally benefit by this drug, but the reverse. The reason he is taking it is that he has had syphilis, and is suffering from it now. Some of you may remember such a case not long since under my care upstairs, who improved very markedly as to his kidney symptoms under a course of Iodide of Potassium and Mercury. I need scarcely say such a course must be given with caution.

Hypodermic Injections of Strychnia in Muscular Atrophy.

This is a case of chronic spinal atrophy, wasting of muscles from atrophy of ganglion cells in the anterior horns of the grey matter of the cord. I shall admit him as soon as I have a bed, and give him a course of strychnia injected directly into the atrophied muscles. The results of this treatment are in some cases very marked indeed,

much more marked than from the administration of the same drug by the mouth. I have recently had under my care elsewhere a young lady with marked and extreme selective wasting of the muscles of the forearms and hands. She could not write or perform any actions requiring fine adjustment. Massage and systematic electrical stimulation did very little for her, but a month's treatment with subcutaneous injection of strychnia improved her so markedly that she could fasten her dress and could sew, and the other day I had a letter written by her which showed little sign of anything wrong. You may begin with \mathfrak{M}_j or \mathfrak{M}_{ij} of Liq. Strychn. twice daily, and gradually increase it to \mathfrak{M}_{vij} , but I have seen it increased to \mathfrak{M}_{xiv} twice daily with only good results. You would of course diminish it slowly again during the last ten days of the patient's stay in hospital.

FORMULÆ.

Pilocarpin for Hiccough:

Prof. B. Stiller (Budapest) has for some years used Pilocarpin in hysterical and nervous Hiccough, and esteems it the best remedy. He orders the following:

R Pilocarpin Hydrochl. ... gr.iss
 Aq. ad \mathfrak{z} iiss
 M. Ft. mist. \mathfrak{M}_x . To be taken three or four times a day.
 (*Centralbl. fur Klin. Med.*)

For Hyperidrosis of Hands (*Allg. Med. Cent. Ztg.*):

R Ac. Boric. \mathfrak{z} j
 Borax. \mathfrak{z} iiij
 Ac. Salicyl. \mathfrak{z} iiij
 Alcohol. \mathfrak{z} vj
 Aq. \mathfrak{z} vj
 M. To be rubbed into the hands three times a day.

Anti-galactagogue. (*Med. Record*):

R Camphor 1 part
 Essent. Terebinthinæ ... 6 parts
 M. Sig. To be applied to the breast.

THE CLINICAL JOURNAL.

WEDNESDAY, JANUARY 25, 1893.

A LECTURE ON THE PROGNOSIS AND THE TREATMENT OF CHOREA.

Delivered at the Hospital for Sick Children, Great Ormond Street, in connection with the London Post-Graduate Course, Jan. 19th, 1893,

By OCTAVIUS STURGES, M.D., F.R.O.P.,
Senior Physician to the Hospital, and to the Westminster Hospital.

GENTLEMEN,—The clinical observation of Chorea leads to certain conclusions, which are obvious and irresistible; its pathology is largely speculative and hypothetical. It is of the disorder itself, rather than of its essential cause, that I have now to speak.

Yet a word or two may be interposed as to the morbid anatomy of Chorea and its more prominent clinical characteristics, for it is out of these that its pathology must be constructed. Now the great anatomical fact of Chorea, explain it as you may, is endocarditis. When the affection occurs in connection with rheumatism, endocarditis goes along with it in virtue of that connection. But there is, besides, an endocarditis that is proper to Chorea. It is seen in the form of minute beads of fibrin along the edge of the mitral valve, an appearance which, as I pointed out in a former lecture, is very rare in any other association.

A large proportion of children dying of Chorea exhibit this change post mortem; and there is reason to believe that it occurs in many of those that recover. Indeed, if we accept as evidence the very same physical signs we are wont to interpret in that sense in the case of acute rheumatism, the occurrence of endocarditis in Chorea, altogether apart from rheumatism, is far from being rare. But the separateness of choreic endocarditis gets obscured owing to the frequent admixture of rheumatism. Most of the fatal cases exhibit rheumatic carditis, and it is only by rare accident that we see post mortem the true endocarditis of Chorea.

And while this distinctive form of endocarditis is the great anatomical fact of Chorea, its great clinical facts are that nervous strain is its frequent

cause, girls are its favourite subjects,* and recovery its almost constant end. I do not propose to consider these matters now, but I submit to you that any proposed pathology of Chorea that leaves out of view any one of these characters stands self-condemned.

Of the causes of Chorea I need say little. You are all aware that it is intimately connected with mental disturbance. It is not less certainly (though in my opinion less often) connected with rheumatism and what is taken for rheumatism, while in a large number of cases both rheumatism and nervous shock are its immediate antecedents, so that it is hard to know which to prefer. The ample clinical records of this Hospital exhibit a vast array of the several ways in which children may be teased, frightened, punished, overworked, overschooled into Chorea. As for rheumatism, more than enough labour has been expended in the really impossible task of determining its precise share in producing Chorea, whether directly or indirectly. It is more to our purpose to note how the affection varies with the age. Approaching puberty is a bad time for it, and at that period it often shows emotion as well as movement. Young children, on the other hand, yield to Chorea willingly and cheerfully. They may take long to get well, but are seldom impatient or fretful.

A good working classification of Chorea—a rough test of its severity—is found in the ability, or otherwise, of the patient to feed herself. Difficulty in this act has its degrees. Some patients must, for a while, be wholly fed by the nurse. Others, less affected, will contrive to feed themselves a little, and until overtaken by the pareses of fatigue. Much patience and some expertness will be needed in the more severe cases. It is your duty to make sure that a sufficient quantity of nourishment is taken daily. In feeding, as in all other acts, the attention of the child should be called to what it can do, not to what it can not do. Muscular failure is to be kept out of sight, and the power of handling or walking not tested prematurely.

* It is in virtue of girls suffering more often than boys (in a proportion of about 3 to 1) that the feminine is employed throughout this lecture. Both sexes are contemplated, however.

Not seldom this wholesome rule is disregarded, and the patients are called upon to perform acts beyond their reach—to touch the nose with the forefinger, to clasp the hands, and so on. The mortification of failure in such attempts tends, I am certain, to retard progress. Education in confidence and self-reliance is an important therapeutic agent in Chorea.

Of diagnosis it is not necessary to say much. Restlessness without spasm, with more or less muscular weakness but unimpaired intelligence—that is Chorea, be it general or partial. On the other hand, movements that are rhythmical or spasmodic, movements or twitches repeated at equal intervals, movements which, though not violent, are quite beyond control, the restlessness of imbecility—all these are distinguishable from Chorea. It must be added that certain limb movements of late life, though in themselves hardly differing from what we call Chorea in children, are yet altogether separate from it in their permanence, in their having often an organic basis, in their hereditary character, and clinical associations.

Diagnosis may be puzzling where the disorder begins elsewhere than in the upper limbs. Thus, marked unevenness of respiration has been taken for paralysis of the diaphragm; inability to speak for commencing brain disease; tumbling about and suddenly falling for some form of paraplegia. The main difficulty is with young children, in distinguishing at the first, the overmovement of idiocy from that of recent nervous disturbance.

And the prognosis of the affection might be disposed of even more briefly than its diagnosis. Chorea always recovers, or almost always. Should we be pressed further as to the probable duration and course of the disorder and the likelihood of relapse, the answers must be indefinite and conditional. What some would almost take for granted is not always true. Thus, the duration of an attack is not proportionate to its initial severity. On the whole, the severer cases are the shorter. Again, such heart symptoms as are proper to Chorea, as altered rhythm and mitral murmur, give no guidance whatever to prognosis. Though it is probable, as I have said, from the physical signs coupled with post mortem experience, that a limited endocarditis occurs in many instances, it is not harmful or permanent, and may safely be let alone. On the other hand, where rheumatic heart disease exists, this, of course, carries a danger of

its own. Choreic heart disturbance, more or less, is mainly a question of age, and is found most with the younger children.

Prognosis must take into account the possibility of relapse. When all is going well, some small disturbing incident—a sudden noise, a bad dream, some startling sight, overhearing what is said at the bedside as to the danger or the satanic origin of her complaint—all these and many similar alarms I have known to excite motor and emotional disturbance sometimes far exceeding in degree that at the beginning. It may be true that the more timid and sensitive children are the most prone to such relapses. But none are safe from them, nor is the cause of this sudden outbreak always discoverable.

Again, in exceptional cases our forecast may be upset by the patient lingering in one stay, neither better nor worse. In such cases the parents may become impatient and dissatisfied, urging that something more should be tried, or suggesting "a second opinion." So beset, the practitioner is sometimes driven to mischievous activity against his own better judgment. In the tranquil moral atmosphere of a hospital we are exempt from these worries, and we know that if not subjected to endless experiments these lingering patients do well enough in the end.

Subject to these accidents, the duration of Chorea may be roughly estimated in a given case by considering the stage it has already reached. It must be remembered that in a large proportion of patients (it would be hard to say how many) the affection begins with mental rather than movement disorder. There is change of temper, sleeplessness, headache. What is impending is rarely recognised at this stage. Faulty manual acts may be already present, but they are either overlooked or attributed to awkwardness and inattention. And for that while the Chorea is daily aggravated by the harsh treatment it gets at the hands of teacher or parent. So soon, however, as mismovement gets too gross to be mistaken, the nurse takes the place of the teacher, and the child is set at rest. Yet in spite of this welcome change it is the nature of Chorea for a while to grow and spread. Presently, however, come signs of amendment, and although this is hardly ever equable in its progress, but rather by fits and starts, yet it is on the whole continuous and often rapid. Now, I say that if in any given case we note the stage the disorder has reached when the child first comes

under notice, whether it be waxing or waning, some approximate estimate may be made of its further duration—an estimate more or less uncertain, as the child is more or less timid and emotional; more or less carefully watched and secured from injurious accidents; short of the climax of her disorder or beyond it.

Other aids to prognosis are asserted, but they are of doubtful service. It is common to say of many diseases that they improve with the general health. And this is especially insisted on in Chorea. It is therein implied both that the health generally suffers in this affection, and that by improving the health you will improve the Chorea. I do not believe either statement. The general health and nutrition of choreic children is often good, and when it is otherwise it by no means follows that the Chorea will get better as the health returns.

It is said further that, inasmuch as Chorea comes of insufficient feeding, the prognosis in such cases is good, because the cause may be easily removed. No doubt this is in a measure true, but it may be doubted whether want of food is ever of itself the cause of Chorea, or that supplying that want is necessarily curative. The dependence of Chorea on ill feeding is, I think, exaggerated. Choreic patients admitted to this Hospital are not, as a rule, ill nourished or anæmic, and they certainly do not belong to the poorest class.

I have been speaking throughout mainly with reference to the subject I have now reached, namely, the Treatment of the affection. Try to realise the sudden advent of severe Chorea in a family of children. Excepting insanity, nothing is more disturbing; and the older the child the greater the scare. It is not the patient alone that has to be treated, but the household. Until the house is quieted no progress is possible. And it is remarkable that while the early nervous symptoms—the sleeplessness, changed temper and headache—are treated as I have said with singular indifference, the first notice of overmovement provokes extravagant apprehension, the prevailing fear being however expressed—that the child is going mad. To quell such alarm needs tact as well as knowledge, but the mere statement must be reassuring that not one child in a thousand is permanently injured by Chorea, and that insanity is hardly known in connection with it.

Turning next to the patient, it will probably appear that her mental condition reflects the state

of mind of the family. It is common to find severe Chorea (it is of it I am now speaking) violently coerced and restrained with all the force of two or three or four excited attendants. If now, by putting two bedsteads side by side or by spreading mattresses on the floor with suitable bedding, ample space be provided for the fullest movement, the patient laid thereon may fling the limbs about without restraint, and with your own sanction so to do. It is surprising how great is the relief both to patient and family that follows these simple measures. Much of the mediæval, besides its name, still lingers in the minds of the vulgar in reference to St. Vitus's Dance, and the effect of dealing with it in a rational spirit is like the breaking of a spell.

Two needs still remain, and in the severe cases we are now considering they are sometimes hard to supply—food and sleep. To feed sufficiently requires, as I have said, much address and practice. But that being given, it is never impossible. The procuring of sleep may be more difficult. Insomnia is an early rather than a late symptom, and it may yield to strict quiet, with close attendance and a darkened room. But if sleep be absent—absolutely absent—over a period of twenty-four to thirty hours, it must be procured by narcotics: Chloral or Bromide of Potassium, or the two together. But every repetition of this needful drugging is to be regretted. Its repetition, day after day, cannot but be harmful. It is better, in my opinion, to encounter the dangers of sleeplessness, such as they are, rather than to bring about in the case of Chorea the evil train of symptoms that always follows the prolonged use of any narcotic whatever. At the same time a timely dose such as I have indicated, or even hypodermic injection of Morphia, is sometimes absolutely necessary.

In Chorea of ordinary severity there is no such need. The patient must be kept quiet in bed, and no open notice be taken of movement infirmity. She is to be helped where she needs help, amused but not excited, and attended only by one or two persons. The child's near relatives are apt to be too anxious and sympathetic, and are therefore less suitable attendants than nurses.

So soon as this quiet routine of life has settled down, when the doctor as well as the nurse has become a friend, and all outside worry is excluded, the child will be on the road to recovery. That she should recover at once or even mend is not to be expected. It is not the way of the disease.

Any impatience on that account, any disappointment at slow progress, will certainly be noticed by the patient, and break the serenity and cheerfulness that her condition requires.

There is nothing special to be said of diet. Food should be light and nutritious; and, in view of the muscular fatigue of extra movement, it should be given liberally. The sufficient and regular action of the bowels is of great importance. The old doctrine that attributed Chorea to intestinal irritation and overloading of the lower bowel need not be revived, but I am satisfied that physicians were guided aright in advocating the use of laxatives. A gentle somewhat free action of the bowels is, in my belief, very important in Chorea; and in these days there are many excellent drugs suitable for procuring it. As time passes and the child improves, limb exercise must be encouraged, and the power of the legs (whose use is apt to return very quickly) carefully tested. I have not myself found that "drill" practice is of much service. In fact, amendment once commenced generally proceeds rapidly enough; it is helped on by the child's observation of each day's new accomplishment, and needs little help or stimulation of ours.

This hasty sketch of Chorea does not always apply to its later stages. In quite exceptional cases, as has been said, children at the end of three weeks or a month show no sign of improvement whatever. You must be prepared in such event to have the wisdom of your treatment disputed, and may even have misgivings of your own in respect of it. It is enough to say that this tardy progress is found amongst children who are industriously and variously drugged as much as with the others. In any case, this settling down to a fixed state of infirmity, both muscular and mental, needs a treatment of its own. It may be compared with a similar condition in hysteria, and goes along with the same enfeebled will-power, which, by mere force of habit, every day tends to aggravate. Indulgence and allowance are now out of place. The patient must be roused, and must be got to try. The kind and the degree of urging will depend on age, temperament, and intelligence, but provided you are sure of your diagnosis, ultimate success is certain.

Finally, we come face to face with the question of drugs. Apart from narcotics (whose use, remember, is limited to severe cases), and apart from ordinary medicaments, such as aperients that may be needed in carrying out the scheme of treatment

I am commending, is there any drug directly serviceable to Chorea in the sense of having some specific action? In my belief there is none. I grant that there is no disorder that can more easily be made to appear as if influenced by drugs than Chorea. It has a natural tendency to recover, and, once on the right road, recovers rapidly, while the patient is often largely influenced by any confident prediction of amendment. Given at the right juncture with the requisite assurance of relief, and there is little left for the drug to do. I can myself remember many esteemed remedies for Chorea now no more: Belladonna, Sulphate of Zinc, Antimony, Conium, and others. Arsenic has deposed them all. I am told, however, that Arsenic itself is in its turn losing popularity. If that be so, I would venture to predict that it will not die without leaving a successor.

Yet while doubting the specific virtue of Arsenic in this complaint, I by no means deny its influence. I have said that good general health is not inconsistent with Chorea. But it cannot be denied that bad health, the failure of health, is sometimes the sign for the cessation of Chorea. Acute illness of many kinds will have this effect. It is very striking, for example, when a patient contracts enteric fever, to witness the active movements of the one affection exchanged for the characteristic stillness of the other. It is reasonable to suppose that many poisons besides that of enteric fever act sometimes in a similar way. In other words, if Arsenic be "pushed" (as we euphemistically say), that is, if it be employed in poisonous doses, we might expect by analogy that the choreic patient would sometimes be reduced to stillness by being made ill. But it is a large price to pay for a result which even so is only secured now and then, and not always permanently. It by no means follows that so soon as the well-known symptoms of Arsenic poisoning appear Chorea will disappear.

In conclusion, if I were to express in few words my own opinion as to the treatment of Chorea—the treatment I have myself adopted for many years in hundreds of cases (and this is my warrant if I speak dogmatically)—it would be to say that it consists in sufferance, patience, cheerful anticipation, a firm unshaken purpose, self-reliance—the very same virtues you seek to arouse in the patient. With the vast majority of cases there is no ground whatever for anxiety, and whether the children return to perfect propriety of movement a little sooner or a little later, what does it matter? The more your dis-

quiet the longer the child's disorder. As for the exceptional and severe cases—though we have examples to warn us that they are not absolutely free from danger, yet these examples (or some of them) teach that this danger, be it more or less, is partly from the Chorea and partly from the sometimes reckless means employed to suppress it. Violent remedies—remedies themselves dangerous to life—are ill suited to a disease that of itself, however violent, habitually recovers.

I am not sanguine as to any general acceptance of what I am saying. A natural instinct makes us intolerant of all disease whatever, and it is not conceivable that for any form of suffering we should be content with anything short of abolition. Chorea will never be formally exempted from the number of disorders that drugs can cure. Nevertheless, considering its nature, sources, and subjects, I believe that the treatment I have indicated is in principle right, and I make bold to add, as a matter of fact, that in practice it is not unsuccessful.

Exhibition of patients followed.

A CLINICAL LECTURE

ON

A CASE OF TUMOUR OF THE SHOULDER:

Its Diagnosis and Treatment.

Delivered at the King's College Hospital.

By WILLIAM ROSE, F.R.C.S., etc.

Professor of Clinical Surgery, and Surgeon to the Hospital.

GENTLEMEN,—The patient who will be brought into the theatre this afternoon for us to examine was admitted here yesterday, complaining of a swelling in the region of the right shoulder. I have not yet gone into the case, and consequently propose to discuss with you and demonstrate the necessary methods to be employed in arriving at a correct diagnosis, and the requisite treatment.

In order to ascertain the locality and origin of the tumour, you will find it convenient to consider carefully the normal anatomical arrangement of the tissues which exist in this region, and the pathological conditions any one of them may assume so as to present a tumour.

Firstly, the normal tissues in this neighbourhood may be epitomized as follows:—

(1) The skin and subcutaneous tissues.

(2) The deltoid muscle, stretched over the tuberosity of the humerus, and giving the round appearance to the shoulder, is covered by strong fascia which dips into and divides the muscle into segments. As a result of this, the muscle is fluted in appearance, instead of being flat.

(3) The circumflex nerve and vessels which supply the deltoid, winding round the outside of the neck of the humerus, about the level of the middle of the muscle.

(4) Bursæ. The most important bursæ are:—

(a) A large sacculated synovial bursa which separates the deltoid from the capsule of the shoulder joint, and known as the sub-deltoid bursa. *It does not communicate with the articulation.*

(b) A bursa beneath the skin covering the acromion process.

(c) Another (the subscapular) which lies between the subscapularis muscle, just where it becomes tendinous, and the neck of the scapula. It is of variable size, and *usually communicates with the joint.*

(d) Lastly, I would remind you that there is a bursa beneath the upper angle of the scapula, and there are also the sub-coracoid and sub-acromial bursæ.

(5) I need not enumerate the other muscles in this region; but there is one anatomical fact which we, as surgeons, must bear in mind. The tendon of the biceps (the long head) is covered with a reflected portion of synovial membrane which may under pathological changes become distended with fluid.

(6) The capsular and accessory ligaments of the joint.

(7) The bones entering into the formation of the joint, covered with articular cartilage. The head of the humerus is mainly formed of loose and spongy cancellous tissue with a thin layer of compact bone surrounding it. Remember that the upper epiphysis of the humerus does not unite till about the 20th year, and may, previous to that period, be the subject of morbid conditions.

I purposely omit all mention of axillary swellings, which would occupy more than the whole time allotted to this lecture; we shall confine our attention to the outer aspect of the limb, inasmuch as the patient has only a tumour in that position.

We now pass to the abnormal or pathological

conditions to which these various tissues are prone, which might lead to a tumour in this locality.

(1) *In the skin and subcutaneous tissue*.—Sebaceous cyst, molluscum fibrosum, nævus, and, lastly, fatty tumours, which are frequently met with, and are very liable to contract intimate adhesion with the superjacent skin, in consequence of their exposure to pressure and friction. The bursa over the acromion process not uncommonly becomes enlarged in those who carry weights on their shoulders.

(2) *In the muscles*.

(a) Rupture of muscular fasciculi will give rise to the appearance of a tumour when the muscle contracts, subsiding again on its relaxation. It is by no means a common condition.

(b) A gumma may form in the muscle, causing a thick and dense ill-defined enlargement. In the latter stages there is no movement of the skin over it, owing to its also becoming involved.

(c) Sarcomata may arise either in the inter-muscular connective tissue, or in the muscle substance.

(3) *In the sub-muscular region*.—*Bursal tumours* are frequently met with here. The *sub-deltoid* bursa may become enlarged as the result of constant pressure. I have seen cases where this bursa presented a similar appearance to the enlarged bursa in housemaid's knee; *i.e.*, with a thick sac containing melon seed bodies. When this bursa is enlarged there is bulging of the deltoid, which at once suggests joint disease. You can, however, move the joint more or less freely; the swelling is circumscribed and slightly moveable; and, on examination of the axilla, the head of the bone can be felt unobscured by tumefaction of the joint. Another condition first pointed out by Mr. Morrant Baker, is the formation of cysts, now known as *Baker's cysts*, under the following conditions:—There is first of all a hernial protusion from the synovial membrane of the joint through some weak spot in the capsule. As this increases in size, its distance from the joint increases also, though there is usually a narrow channel of communication between the two, which may, however, eventually become completely obliterated. The question as to whether or not this communication still exists is a very important element in the surgical treatment, and one on which a decided opinion can seldom be given until an exploratory incision has been made.

Other bursæ may become enlarged, but I will not complicate the present lecture by discussing them, as they are so rare.

(4) *About the head of humerus*.—*Chondroma* of upper end of the humerus, which seldom remains benign, though it may start as such. It usually changes its type, becoming a chondro-sarcoma. *Osteoma* is not uncommon, occurring in the form of a cancellous exostosis; it originates from the neighbourhood of the epiphyseal line, and forms a tumour capped with cartilage, from which it grows. This is found in adolescents, and its growth usually terminates with the complete ossification of the bone. An extra-articular formation, it does not materially interfere with the movements of the joint.

Sarcomata are also met with, growing either from the periosteum, or as a myeloid tumour from the interior of the head of the bone. Rarely we meet with tertiary *syphilitic* disease of the head of the humerus simulating sarcoma.

(5) Lastly, the appearance of a tumour in this region may be due to *distension of the joint* from effusion as a result of tubercular, rheumatoid or other affections, outlying extensions of the synovial membrane also becoming distended with a similar fluid, *e.g.*, the sheath of the biceps tendon.

Such, then, are the main anatomical and pathological facts we must have in our minds when we come to examine this case. It is well for you to be equally systematic in the investigation of all cases, otherwise your diagnosis may be inaccurate.

Let us consider the particular case before us. This woman is 72 years of age, of regular and temperate habits, and her only trouble has been what she terms "rheumatics"; her family history is good. Six months ago she was knocked down by a bicycle. The next day she noticed that her right shoulder was swollen and stiff. The stiffness and pain continuing she consulted, four months after the accident, a medical man, who told her she was suffering from rheumatism in the joint. Finding herself still getting worse, she consulted, fourteen days ago, another medical man, who sent her here. She complains of considerable pain in the shoulder, increased by movement, together with loss of power of the limb. There has been no bodily wasting to speak of.

On inspection you can see that there is a considerable swelling in the region of the right shoulder, more pronounced in front and behind than externally. This extends from the origin and posterior

border of the deltoid above and behind to its insertion below, and to the insertion of the pectoralis major in front. The point of the right shoulder is slightly higher than that of the left, and there is some enlargement of the veins anteriorly. Fluctuation is distinctly felt everywhere except in front. There is a difference of $1\frac{1}{2}$ inches in the vertical measurement of the two shoulders. Extension and flexion are restricted and painful. Abduction and adduction are more free and less painful. There is no obvious increase in the temperature of the shoulder.

The first question we have to decide is whether this swelling involves the joint. On raising the arm and rotating it, there is distinct grating to be felt and heard, which, however, does not cause the patient such acute pain as one would expect under some circumstances. Is this crepitus due to bursal enlargement, extravasation of blood, or is it the result of the rubbing together of bony surfaces?

This, as a rule, should not be a difficult matter to decide; but undoubtedly cases of obscure crepitus do arise, when the *tactus eruditus* of the surgeon, combined with the intuition born of long experience, can alone determine its causation. At the same time, a careful study of the previous history, the quality of the crepitus, whether soft and crackling, gristly, or rough and rasping, its probable situation, whether superficial or deep, the method of eliciting it, and the position of the limb when it occurs, should all be carefully weighed.

In this particular instance the extensive and audible grating on rotating the limb, and its deep situation, leave little room for doubt that it is caused by the head of the bone and the glenoid cavity, denuded of cartilage, grating one against the other.

By placing one hand gently over the posterior aspect of the tumour and the other in front, we ascertain that through-fluctuation exists. Then passing the fingers into the axilla, a puffiness of the joint capsule can be clearly demonstrated. From this and the other signs it is evident that this tumour of the shoulder is primarily due to a distension of the joint, which has transgressed the natural boundaries, and displaced and probably irritated surrounding structures.

The *Cause* of this effusion and the diagnosis of the case must next engage our attention. It is certainly not an abscess, arising from acute arthritis, as the symptoms have never pointed to any acute disturbance, there having been no excessive heat locally, or fever or rigors generally. It is probably

not a chronic abscess, the result of tubercular disease, because there are not, nor have there been any, signs of inflammatory mischief or tuberculosis, and the age of the patient is against it, though senile tuberculosis is not unknown.

It is not a case of simple chronic synovitis, because this would not explain the extensive denudation of the ends of the bones.

We are, then, entitled to regard it as one of monarticular Osteo-arthritis, or, as it is sometimes termed, Arthritis deformans, affecting the shoulder joint, and lighted up, as so commonly happens, by an accident. There is certainly more effusion than is usual, constituting a condition of Hydrarthrosis; but we may find some explanation of this on laying the parts open.

This brings us to the question of *Treatment*. The routine treatment of this disease by drugs and external applications is eminently unsuccessful, and it is hardly likely that this case will be amenable to such means. Encouraged by the success we have recently had in dealing with these cases by excision, I have no hesitation in recommending to this woman, even at her advanced age, to undergo a similar operation. You will recollect the man in the Albert Ward for whom I performed this operation for a similar condition, and who left the Hospital with a moveable and painless shoulder, and a useful arm. I propose, therefore, on Saturday next to deal with this case by operation.

Postscript.—The usual operation for excision was performed, and the above diagnosis verified. An abundance of stalactitiform osteophytes around the glenoid cavity formed a large cup-like receptacle, into the walls of which the enlarged acromion process was incorporated, and within which the enlarged head of the humerus revolved. In addition to a considerable quantity of straw-coloured serum, there was an abundance of villous tuft-like masses growing from the walls of the distended synovial membrane, and from its prolongation along the biceps tendon. This, together with the thickened capsule, was carefully dissected out with scissors; the head of the bone was sawn off at a bevel from above downwards and inwards, the sharp edges being rounded off with cutting-pliers. The stalactite processes of bone were also removed, and the wound closed in the usual way. The patient suffered somewhat from shock after the operation, but otherwise made uninterrupted progress, and left the Hospital with a sound and useful arm.

A CLINICAL LECTURE ON THE REMOVAL OF THE UTERINE APPENDAGES.

Delivered at the King's College Hospital
By **W. S. PLAYFAIR, M.D., LL.D.**
Physician for Diseases of Women and Children to the Hospital.

GENTLEMEN,—I have selected to-day the subject of the removal of the uterine appendages for a gynaecological lecture, because it is one which has been so largely a matter of controversy, and because it is the duty of every teacher to express plainly his views on a question as to which such difference of opinion has existed. There is no more burning question in gynaecology: there are a large number of practitioners, totally opposed to the removal of the ovaries or tubes by operation, who have maintained that this operation has been followed in far too large a number of cases by unsatisfactory and fatal results; while, on the other hand, there are a certain number of men, burning with surgical zeal and enthusiasm, who seem to think the operation of removal of the appendages a matter of slight importance, and who have given too good grounds to the objections of the first class of whom I have spoken.

Now, I have always maintained that in all questions of this sort, extreme views of either kind are probably wrong, that there is a great deal to be said on both sides, and that a *parti pris* and want of dispassionate consideration is a sure obstacle to the estimation of the full value and true importance of the subject under discussion.

Now, the whole of these operations are of very modern origin and growth; indeed, the first man who removed the ovaries, Battey, of Georgia, in 1865, did not resort to the operation with the idea of removing diseased structures, he having only performed what has been termed "normal ovariectomy." It was not until 1872 that the operation was performed by Mr. Lawson Tait in this country, and about the same time by Hegar in Germany. It was certainly in this country that it received its chief impulse, and it was the former who first showed that diseased appendages are very common things indeed. Not that they had never been recognised before, for in the early part of this century, attention was drawn to them by Boivin and Dugés, of Paris, and drawings of pyo-salpinx and similar conditions were represented as illustra-

tions of pathological curiosities. It is only owing to the researches made since 1872, however, that the commonness of the occurrence of diseased appendages has to some extent been recognised.

The subject, as I have said, is one of entirely modern growth, and so sceptical were many of the leaders of gynaecology in this country as to the existence of these conditions that, although the Pathological and the Obstetrical Societies were flooded with specimens of pyo-salpinx, hydro-salpinx and hæmato-salpinx, many maintain to the present day that they are unimportant, and by no means the matter of extensive frequency they are represented to be.

The records, however, of post-mortem examinations show that this view is far from correct. Out of 100 cases, made up of patients suffering from diseases of all kinds in the London Hospital, and *not including* gynaecological cases, Dr. Lewers has found 17 cases—8 having hæmato-salpinx, 6 having pyo-salpinx, and 3 having hydro-salpinx. These figures are very remarkable, because they relate to cases in which these diseases were not even suspected, but merely found. These facts, combined with the statistics of Dr. Fowler, based on analogous observations made in the theatre at the Middlesex Hospital, place, in my opinion, the frequency of the occurrence of these diseases beyond doubt.

Now, as I have said, in spite of this fact there can be no question that in a certain number of cases—I mention no names, because I do not wish to appear to criticise too freely—these operations are performed with a facility which must be pronounced reprehensible. And this facility has the effect of causing every case of such an operation to be looked upon with a certain amount of disfavour in some quarters. It is so with other things. Take the operation of Trachelorrhaphy. I myself only perform it once or twice in a year; but though an exceedingly valuable operation, it has been ridden to death by the Americans, and through this excessive frequency of its use in America its use in properly selected cases has become discredited. And this is the case with half-a-dozen other methods of procedure, as for example, because the use of electricity has been carried to excess, people jump at the conclusion that it is not to be used at all. And as in these things, so with the removal of the uterine appendages.

No one can accuse me of being a zealous

operator in disease of this kind, for I find that in the past twelve months I have only operated seven times for removal of the appendages, from one cause or another. Not a very large practice, it may be said; but I am of opinion that such operations are only to be resorted to as a last resource, and that is the stand I take with regard to this mooted question.

I will now proceed to direct your attention to the class of cases in which these operations may be effected. I cannot enter into the pathology of these diseases at present, merely remarking that they spring from a variety of causes, as when endometritis produces secondary disease in the Fallopian tubes, ending in the formation of pus, the orifices of the tubes becoming occluded; or, again, when hydro-salpinx or some similar disease ensues; but I may say that I believe the operation to be legitimate in the following class of cases:—

1st. Certain cases of hæmorrhagic fibroid attended with very profuse hæmorrhage. There can be no question that if you remove the two ovaries with the Fallopian tubes in a case of fibroid, you not only arrest the hæmorrhage, but arrest the growth of the fibroid itself. I believe, therefore, that the operation, under such circumstances, is one of extreme value. But at the same time it is of limited application, *i.e.*: (1) You cannot apply it to a fibroid of any very large size, or in any case in which the tumour has spread from the uterus above the umbilicus; again, the fibroid is often so twisted out of its ordinary position that it is impossible to remove both the appendages. (2) The operation is not legitimate until every means of arresting the hæmorrhage has been tried. Moreover, this operation is not without considerable risk under these conditions. Thus, in 271 cases there were 26 deaths, a mortality of about ten per cent., and this in the hands of a man who produces a far greater proportion of success than the average operator. On the other hand, you must remember that the mortality following hæmorrhagic fibroid is itself not inconsiderable, and that persons affected with it suffer from such complete debility and prostration that they are rendered unfit for the ordinary duties of life, so that they may legitimately run the risk (when the alternative is put fairly before them, as in every case it should be) of an immediate fatal issue in the hope of complete restoration to health.

2nd. Then there is another class of cases—quite the most frequent class—in which operation is

rendered justifiable, *viz.*, for diseased conditions of the kind named pyo-salpinx, hydro-salpinx, and hæmato-salpinx. It may fairly be said that these affections are incurable without operation. No reasonable man could suppose that pyo-salpinx is a curable condition, and the patient's life is always in risk, because many accidents may happen to destroy it, such as rupture of the tube, escape of the pus into the peritoneal cavity, and the like, so that in the case of a person having this complaint, if you are satisfied in your own mind of the diagnosis, I should be quite prepared to lay it down as an axiom that operation would certainly be justified. The question is one of diagnosis. Is it quite clear that the tubes are diseased, and the condition a pronounced one? I have seen a great many cases of enlarged and tender prolapsed ovaries, in which operation has been recommended, and been postponed, and the case has ended well. The operation is, therefore, to be performed as a last, and not as a first resource, unless the physical features of the case make the diagnosis so certain that the existence of the disease in question cannot be doubted, as in the presence of a tumour, which you can feel through the rectum or the vagina. Rest and general treatment may fail, but if they do fail no mischief is done, no physical harm which you cannot undo, and therefore if this harm must be done, it is better done at this stage than at first.

These, then, are the chief diseases in which this operation is indicated. But there is another class in which operation is deprecated by a great many men, but which, if I may judge from my own experience, is subjected to much more general treatment by operation than any other: I refer to various functional neurotic diseases. Last year I wrote a paper for the purpose of expressing my strong disapproval of this in cases of nervous diseases of women, such as neurasthenia, advanced hysteria, and the like—the most curable of all the diseases of women, if you know how to do it. A great many do not know how to do it, and do not take the trouble to make themselves acquainted with the method, resort to the removal of the ovaries in the hope of effecting a cure. I have seen several cases in which this operation has been actually performed without one iota of benefit accruing, which I have afterwards cured by systematic treatment, and which I should certainly have cured before. It is therefore quite clear that these women were practically unsexed—for it comes

to that—by having their ovaries and tubes unnecessarily sacrificed. I have also seen as large a number of cases in which the operation has been recommended, but in which the patients have not had the courage to submit to it, and have been subsequently cured. I well remember a case of this sort in a lady whom I happened to hear from only a few weeks ago, who was going to have her ovaries and tubes removed on a certain morning; but on the previous night her courage failed her, and she made a “moonlight flitting”—that is, ran away. On seeing her I immediately put her on systematic treatment, under which she quickly recovered. I am aghast at the frequency of cases of this kind coming under my own observation. Only this morning I happened to see a young lady in very robust health, whose father came to me six months ago with his medical attendant to say that in a city of the Continent—his daughter had been sent abroad for her health—the principal surgeons had seen her and told her that the only thing that could cure her was the extirpation of the uterus per vaginam. I immediately sent a telegram to say that the operation was on no account to be permitted, and the patient was brought back to London. She had been bed-ridden for years, but got perfectly well in six weeks under systematic treatment. Here was a patient who but for timely intervention would have had her uterus extirpated, and, generally speaking, the light-heartedness with which such operations are recommended is most reprehensible. You may lay it down as an axiom that cases of removal of appendages for nervous affections are invariably cases in which the operation should not have been performed. In one or two cases of hysterolepsy which have been said to be cured by this method, I doubt whether they could not have been cured by other means.

These, then, are the classes of cases in which this operation is justifiable, and these the limitations which I think should be placed on its use.

I do not wish to occupy your time at length, but I should like to say a word or two as to the operation itself. You should not run away with the idea that it is a simple operation; on the contrary, it is much more serious and difficult than ovariectomy, in which the abdominal wall is distended, and in which there is plenty of space to see what you are doing; but with the removal of the uterine appendages, bound down by extensive adhesions to the surrounding structures, requiring separation

and peeling off with the fingers, hæmorrhage may occur; you are working by touch, not by sight, and may not know what structures you are dealing with, and the difficulties of laparotomy find their maximum. Where no disease of the structures exist the operation is of the utmost simplicity; but, as I previously advised you, you will never resort to operation except where extensive disease does exist.

Nor should I advise any man to undertake these operations under any circumstances, unless he has a considerable amount of experience in abdominal surgery. Fortunately, all such cases naturally find their way into the hands of specialists, so that there is less danger of their being dealt with by inexperienced persons; but I may advise you not to attempt to perform one of these operations until after the performance of laparotomy of a simple character.

As to the immediate results of the operation, you must look for a mortality of at least 8 per cent., and if you can limit your mortality to that percentage you may look upon yourselves as very successful operators. As to the remote results, these are, I think, very satisfactory in the great majority of cases—*i.e.*, in 80 to 90 per cent. If the diseased structures are entirely removed, there follows complete cure of the morbid conditions. There are, however, many cases of trouble after the operation of a different character to that cured by it. Such immediate results are trouble in the intestines from adhesions, with possible strangulation and irritation, pain in the site of the pedicle, and other conditions. Some of you may have seen upstairs, yesterday, the patient who came into the Hospital with a large abscess opening on the site of an incision in laparotomy, in which a ligature came away, which was the source of the irritation.

It is very doubtful in some of these cases, in which menstruation has continued regularly, after the removal of the appendages, whether they have really been removed at all. Sometimes the difficulties of the operation are so great that the tubes and ovaries are left, without the possibility of their being taken away: in which case the operation, as such, may be said to be a failure. I cannot, for instance, understand how it is, unless this is the case, that after the lapse of one or two years the woman should menstruate as regularly as she used to do before she had been operated on. That is the condition of more than one patient I have seen in which the appendages have been supposed to have been removed.

CLINICAL NOTES.

(Specially reported for The Clinical Journal. Revised in each case by the Author.)

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WITH MR. QUARRY SILCOCK IN THE OUT-PATIENT DEPARTMENT OF ST. MARY'S HOSPITAL.

An old Case of Arthrectomy.

This boy, aged 9, was brought to me, six years ago, suffering from tubercular disease of the right knee-joint. I scraped away the diseased synovial membrane, and at the same time removed the crucial ligaments. He was by no means a suitable case for any surgical treatment, as at the time his general health was bad. Owing to two of the ligatures being septic the wound did not heal for some time, and he had to remain in the Hospital for about ten weeks. He returned soon after with some pulmonary trouble. At present his brother is in the wards with tubercular disease of the vertebræ.

There is no backward displacement of the tibia, as said by some to result from the removal of the crucial ligaments. This is due to the fact that for two years after the operation the joint was kept at rest by means of suitable splints. *In all such cases you ought to insist on the joint being kept immobile for quite two years or more by such means.* You can see that the boy has a useful limb. He can walk and run easily; he can semiflex, and then straighten the joint. There is no shortening, but, as it appears from the dresser's measurements, slight lengthening of the affected limb. There is no bony ankylosis; this is probably due to the fact that the hard ends of the bones do not lend themselves to this condition. Had they been removed, and two surfaces of cancellous bone tissue left in apposition for two years, true bony ankylosis would have taken place, and the boy would have now a rigid limb. This and other cases lead me to think that "Arthrectomy" may often be vastly superior to "Excision" of the joint.

Simple Ulcer of the Cheek.

This man presents a simple ulcer of the mucous membrane of the cheek near the commissure of the lip, which is partially healed. I regard it as simple because it is obviously healing, and there is no induration around it; in the fact too, that there

is no history or sign of syphilis, or enlargement of lymphatic glands. These simple ulcers are commonly caused by the patient biting the part, as in the present instance, and are prevented from healing by a repetition of the act, or by the patient continually sucking the part, or by its contact with irritating food and drink. The best treatment, I find, is to touch them with Nitrate of Silver, and so obtain a protective covering; and order Chlorate of Potash in the form of tablets to be sucked, and our Garg. Iodi.* as a mouth wash.

Chronic Eczematous Ulcer of the Leg.

In this situation the same adverse condition, want of rest, is our main difficulty. No matter what form of ulcer you find on the leg, the indications for treatment are the same (1) to give it rest, (2) to keep it aseptic by means of suitable applications. I usually order an ointment containing either 2½ or 5 per cent. of Creoline or five grains of the Yellow Oxide of Mercury to the ounce. It is no use applying the ointment until the scabs are removed. I do not use a sticky, sodden vegetable mess, termed a poultice, for this purpose, but I order in place of that an alkali lotion containing Bicarbonate of Soda, grs. xx; Glycerine of Carbolic Acid, ℥v, to the ounce of water.

Hypodermic Injections of Cocaine in Solution for Minor Operations.

I do not think that some English practitioners yet fully appreciate the use of Cocaine in the form of a hypodermic injection for minor operations. On the Continent hæmorrhoids are removed, and large surfaces cauterized, without any general anæsthetic, under the influence of its local action. The two objections urged against it are over-estimated, in my experience. We are told that dangerous toxic effects are produced by it, or that its local action is inefficient.

I have never seen dangerous toxic effects produced either here or at the Moorfields Ophthalmic Hospital. This is due to the fact that neither here nor there do I ever use a solution of a greater strength than two per cent. I believe that failure to obtain the local effect is due to its being injected improperly. It is easy to understand that should the needle of the syringe pierce the coats of a vein,

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|---------------------------------------|-----------------|-----|-----|-------|
| * Garg. Iodi. St. Mary's Hosp. Pharm. | | | | |
| B | T. Iodin. ... | ... | ... | ℥viii |
| | T. Cinchon. ... | ... | ... | 3j |
| | Aq. ... | ... | ad | 3j |

the solution might be injected into the lumen, and at once carried away in the circulation. I insert the needle beneath the skin, and then inject a few drops of the solution; I then push the needle in a little further and inject a few more drops, continuing this procedure until the syringe is empty. Supposing I were about to remove a finger at the metacarpo-phalangeal joint under its influence, I should insert the needle, say, four times; once on either side of the joint on the posterior aspect, and once on either side on the anterior aspect. In all I should use about one drachm of the solution, I suppose.

In this patient I removed an additional toe under its influence. I made the usual racket-shaped incision, and finding it difficult to disarticulate at the joint formed with the phalanx by reason of ankylosis, I crunched through the bone with bone forceps. Yet you hear him tell us that he had no pain whatsoever, and was able to sit up and watch the operation.

The other day you saw me remove under its influence from a patient a sebaceous cyst as big as my fist, and I have often in this room opened abscesses painlessly. I have also removed epitheliomata of the lip, epitheliomata of the cheek, operated for varicocele, and in fact performed a number of various operations under its influence.

It is well worth remembering that when properly used and of a right strength the hypodermic injection of Cocaine solution is a very useful and safe local anæsthetic.

Enlargement of Bursa beneath the Semi-membranosus.

This woman came here one week ago with a fluctuating tumour on the inner side of left knee, beneath the tendon of the semi-membranosus. She complained that she could not move the joint to any extent. I found the swelling to be due to enlargement of the bursa beneath the semi-membranosus.

This is by no means a rare condition; and as it is one producing much discomfort to the patient, it is advisable to be conversant with its treatment. In the first place I order rest. This woman could not lay up, so the joint was strapped, and a short straight back splint used. We find that now the strapping is off there is very little swelling to see. I shall re-apply the strapping and splint, and, doubtless, in another week or two she will be cured. Supposing, however, this mode of treatment had

failed, I might have tapped the bursa. The bursa, however, communicates with the joint, and it is more than probable that the fluid would re-accumulate several times. I have advocated the excision of the bursa,* when chronically enlarged independently of disease of the knee-joint. Others, however, disagree with me on theoretical grounds, urging the danger of the operation, as the bursa communicates with the knee-joint. I think that the danger is very small if the operation is done with strict antiseptic precautions. I have performed it in a number of cases, and have not had a single bad result. In every case the wound has healed by first intention, and the patient has been able to leave the Hospital in ten days or so. At first I was very careful to ligature the pedicle connecting the bursa with the knee-joint. Latterly I have not done so, and yet the results have been equally satisfactory.

REVIEWS and NOTICES of BOOKS.

Text-Book of the Eruptive and Continued Fevers, by JOHN WILLIAM MOORE, B.A., M.D. Univ. Dubl., 1892. (Fannin & Co.)

This handsome volume of 535 pages, creditable in its form and appearance to the Dublin press, is a useful addition to the medical works of reference needful to the busy practitioner, and worthy of the deservedly high reputation of the Dublin School of Medicine, and of its accomplished author. For accurate clinical observations and sound therapeutical considerations it is eminently trustworthy, and well calculated to supply the place such a work is designed for. The marks of original thought and judgment are strong enough throughout to counteract the excess of deference shown in many instances to the opinions of others; but the reader can very well estimate the value of differing views, as they are in all cases fairly given, often in the original words of the writers referred to, and he can himself hold the balance; thus, at page 149, where a direct statement by Trousseau is compared with divergent views of others on the same page. Indeed, the numerous references and quotations make a prominent feature of the work, and an important feature seeing how fully etiolo-

* "Clin. Soc. Trans.," vol. xxi., p. 163.

gical and therapeutical questions are entered into. We can praise fully the way in which so many of the new physiological remedies are discussed, and agree with the way in which they are dealt with. Modern views on causation of disease are well given; but some of the older theories are allowed a place they will hardly retain, as that mouldy straw produced measles, where a proved contact with measles patients puts the straw fungus out of court. An old guess of a short incubation for Varicella is retained against the weight of subsequent evidence. Second attacks of this trivial eruption are certainly rarer than the recurrence of variola and varioloid. The frequency of second attacks of Scarlet Fever are not enough dwelt on, nor the possibility of relapses and recrudescences of that exanthem fully conceded, as it now should be beyond doubt. A recrudescence in measles, though rare, has been recorded; in German measles (*rötheln*) it is by no means so rare.

The well-known relapses of enteric fever receive due recognition. Indeed, this continual and oft-recurring plague in all its shapes and variations very properly receives the largest and fullest treatment in the work before us. Typhus and relapsing fever have their share of attention, but the care bestowed on the enteric fever section, consisting of thirteen chapters, warrants the book to be deserving of wide consultation.

To the remarks on typho-malarial fever, we may add that typical cases occur without the characteristic lesions of enteric fever; so that, instead of being a variety of enteric, it becomes doubtful whether this disease is in any way concerned.

A short chapter on Febricula or simple fever is as unsatisfactory as any attempt to combine the various forms of totally distinct fevers under one term necessarily must be. Besides the mild or abortive attacks of the various specific fevers, we have the so-called ardent fever of the tropics, sun fever or heat exhaustion, and the feverish cold (p. 235), which is infectious or "taking" in a high degree, all brought together; as epistaxis, sweats, diarrhoea and *herpes labialis* are given as critical, and the term diary fever, formerly applied to influenza, retained as one of its names, there is need for further analysis. Useful plates and diagrams are inserted, and the temperature charts throughout the volume are excellent and very conveniently introduced. It is in our opinion, however, a book which would be found of great use by all practitioners.

Syphilis and the Nervous System. By W. R. GOWERS, M.D., F.R.C.P., F.R.S. (J. & A. Churchill, London.) *Published at 4s.*

This book is a revised reprint of the Lettsomian Lectures for 1890, delivered before the Medical Society of London. The three Lectures are, (I.) The Ultimate Pathology of Syphilis. (II.) The Origin of Functional Nervous Disorders attributed to Syphilis on Imperfect Evidence. (III.) The Essential Principles underlying the Prognosis of Syphilitic Disease of the Nervous System, and their effect upon the Special Prognosis of the chief Lesions. Dr. Gowers states his views very clearly, and quotes a number of illustrative cases. He avoids making dogmatic statements. Where he differs with the teaching of others, he advances arguments which demand careful attention. The indications laid down by him as to what class of lesions occurring in the late stages of Syphilis are benefited by Mercury rather than by Iodide of Potassium are practical and useful. Dr. Gowers declares himself as opposed to the administration of either Mercury or Iodide of Potassium over a "prolonged" period, stating that by "prolonged" he means exceeding from six to ten weeks.

We have read the book with much interest. It will be found of use by all practitioners as a guide to the syphilitic lesions of the nervous system.

The Year-Book of Treatment for 1893. (Cassell & Co., London.) *Published at 7s. 6d.*

The present volume forms the ninth number of the Year-Book Series, and will be as welcome to the profession as its predecessors. It consists of 477 pages of text; a selected list of new books, new editions and translations; an index to Authors quoted; and a full index to subjects which bears evidence of careful and sensible preparation. The printing is clear and easy to read.

The 477 pages of text are divided into twenty-two sections as follows:

Diseases of the Heart and Circulation; by J. Mitchell Bruce, M.D., F.R.C.P. Diseases of the Lungs and Organs of Respiration; by E. Markham Skerritt, B.A., M.D. Lond., F.R.C.P. Diseases of the Nervous System, including Insanity; by E. S. Reynolds, M.D. Lond., M.R.C.P. Diseases of the Stomach, Intestines, Liver, etc.; by Robert Maguire, M.D. Lond., F.R.C.P. Diseases of the Kidneys, Diabetes, etc.; by Charles Henry Ralfe, M.A., M.D. Cantab., F.R.C.P. Gout and Rheu-

matism; by Archibald E. Garrod, M.A., M.D. Oxon., F.R.C.P. Infectious Fevers; by Sidney Phillips, M.D., F.R.C.P. *Anæsthetics*; by Dudley Buxton, M.D., B.S., M.R.C.P. General Surgery; by Stanley Boyd, B.S., F.R.C.S. Orthopædic Surgery; by W. J. Walsham, F.R.C.S. Surgical Diseases of Children; by Edmund Owen, M.B., F.R.C.S. Diseases of the Genito-Urinary System; by Reginald Harrison, F.R.C.S. Diseases of the Rectum and Anus; by Alfred Cooper, F.R.C.S. Venereal Diseases; by J. Ernest Lane, F.R.C.S. The Diseases of Women; by G. Ernest Herman, M.B. Lond., F.R.C.P. Midwifery; by M. Handfield-Jones, M.D. Lond. Diseases of the Skin; by Malcolm Morris, F.R.C.S.E. Diseases of the Eye; by Henry Power, M.B., F.R.C.S. Diseases of the Ear; by George P. Field, M.R.C.S. Diseases of the Throat and Nose; by Barclay J. Baron, M.B. Edin. Summary of the Therapeutics of the Year 1891-92; by Walter G. Smith, M.D. Univ. Dublin. *Public Health and Hygiene*; by Professor W. H. Corfield, M.A., M.D. Oxon., F.R.C.P.

The object of the Year-Book is to put before the profession a resumé of the more important alterations in treatment introduced during the preceding year. It does not merely give a bald statement of the fact, but supplements it with a condensed account of the scientific reasons which have induced those concerned in introducing such new method to do so. The object is well carried out by all concerned in the production of this useful book.

The arrangement of the book is such that one can quickly refer to any subject. The affections of each organ or group of organs are arranged in sections; and each section is further divided into sub-sections, which greatly add to the usefulness of the book for the purpose of rapid reference. For example, Dr. Mitchell Bruce's section on Diseases of the Heart and Circulation is divided into four sub-sections: I. Acute Valvular Disease of the Heart. II. The establishment and maintenance of Compensation. III. Failure of Compensation, with a special reference to the selection of Remedies and the use of Digitalis. IV. Functional disorders of the Circulation, including Grave's Disease.

The book contains such a mass of information on all points, that one finds the task of reviewing it in detail impossible. We notice, however, three new features, all of them welcome improvements to previous volumes. Though, of necessity, quoted articles are condensed, yet this condensa-

tion has not been carried out to the same extent as in previous numbers, with the result that the text is, on the whole, much more readable.

The other two new features are the sections on "Anæsthetics" by Dr. Dudley Buxton, and on "Public Health and Hygiene," by Professor Corfield. In previous editions anæsthetics formed part of the article on "General Surgery." It is right and proper that such an important branch of Medical Science should have its own section. Dr. Dudley Buxton has divided this article into two sub-sections: I. Anæsthesia for short operations. II. For long operations. The first deals with (1) Nitrous Oxide; (2) The administration of Nitrous Oxide; (3) Nitrous Oxide mixed with Oxygen; (4) Nitrous Oxide mixed with air; (5) Bromide of Ethyl; (6) Pental (amylene). The second part deals with (1) Ether; (2) Chloroform. Though the article only occupies a few pages, it contains a quantity of useful and practical information.

The article on Public Health and Hygiene by Professor Corfield will be read with much interest. He gives a history of the Cholera outbreak during the last year, and enumerates the new measures which were taken by the Local Government Board, against the threatened visitation of Cholera. He also makes some practical suggestions as to the need of some special instruction being given to the poor, whom he regards as the great source of danger to the community at large should Cholera get into this country. The rest of his article dealing with other subjects coming within its scope is interesting and useful.

The exigencies of space prevent our discussing the other articles. We must be content with the enumeration of them already given.

To all practitioners desirous of keeping themselves acquainted with the Progress of Medical Science in its many branches, we can recommend the "Year-Book for 1893" as admirably calculated to fulfil this purpose.

Medical Microscopy, pp. 412, by FRANK J. WETHERED, M.D. Lond. (Lewis' Practical Series.) *Published at 9s.*

We have to congratulate both publisher and author on the excellence of this little volume, which well maintains the reputation of the Practical Series, published by Mr. Lewis. The opening chapters deal in a most satisfactory manner with the choice of a microscope, no easy task in these days, and

with complete directions for preparing specimens for observation. The methods are good, very clearly described, and leave great room for individual choice. We notice, under the heading of stains, one valuable little hint is omitted, viz., when double staining with Hæmatoxylin and Eosin, it saves much time and trouble to clear the sections in Oil of Cloves, in which the Eosin has already been dissolved, to any required extent. The special methods for the spinal cord are well described and reliable. The succeeding chapters on the examination of tissues, secretions, excretions, and parasites are exceedingly well done, here and there we note a doubtful statement, e.g., that the normal fæces are always alkaline; but on the whole the information given is reliable and sufficient. We think that the section on blood stains had better have been either omitted altogether or much enlarged, and the same remark applies to the sections on practical Bacteriology, which is so much better treated of elsewhere in special manuals. Notwithstanding these slight defects we have no hesitation in strongly recommending the book not only to students but to busy practitioners, who want occasionally to refresh their minds on microscopical appearances.

Mediastinal Tumours, pp. 98, by JOHN LINDSEY STEVEN, M.D. (H. K. Lewis, London.) *Published at 4s. 6d.*

The first chapter gives a fair summary of the literature of the subject. The bulk of the work is then occupied by the clinical histories of twelve cases of various mediastinal tumours which had come under the author's personal observation. Of these reports we can only speak in terms of the highest praise: they are most carefully recorded, and will form a valuable addition to the clinical picture of the disease, and one well worth studying by any practitioner interested in the subject, and who has a doubtful case before him. The author's remarks in the last twelve pages on diagnosis and treatment are sound, and we believe in the main reliable, but they scarcely add to the value of the previous clinical and morbid anatomical part of the work, inasmuch as they may be found in most good text-books on general medicine. On the whole, it is our duty to congratulate the author on a very readable account of an obscure and comparatively rare affection.

A New Medical Dictionary, pp. 472, by GEORGE M. GOULD, B.A., M.D. (H. K. Lewis, London.) *Published at 12s. 6d.*

The author states that his purpose has been "to include those new words and phrases created during the past ten years;" "to frame all definitions by the direct aid of new, standard and authoritative text-books, instead of making a patchwork of mechanical copyings from older vocabularies;" "to make a volume that will answer the needs of the medical student and busy practitioner by its compactness and logicalness of arrangement, its conciseness of definitions, its elimination of the useless, and its convenience of size and price."

The author has admirably carried out his intentions, with the result that we can recommend the book to all concerned in the study of medicine and its allied sciences. Not only are the definitions accurate and lucid, but under many words the author has succeeded in giving useful and practical information in a condensed form. Amongst other useful information may be mentioned a table of the more important bacilli and their principal characteristics, and similar tables of the micrococci and ptomaines.

First Aid in Illness and Injury. By JAMES E. PILCHER, M.D., PH.D., Captain in the Medical Department of the United States Army.

While this handbook is hardly likely to replace, in this country, our excellent text-books on First Aid, it is none the less an interesting and carefully prepared one. The first part, "On the Construction of the Human Machine," enters much more fully into the matter than is possible for a lecturer giving an ordinary course of ambulance lectures; but the essential points are distinguished from less necessary details by being printed in larger type. Three varieties of the large arm sling are given, which may be useful under different circumstances.

The book is profusely illustrated throughout, many of the illustrations being from photographs. It concludes with a reprint of the "U.S. Army Manual of Drill, for the Hospital Corps," in which it is interesting to note the similarity between the arrangements in that service and those in our own, in their general details. Those interested in this subject will find Dr. Pilcher's book well worth perusal.

The Bristol Medico-Chirurgical Journal,
December, 1892. (J. W. Arrowsmith,
Bristol; J. & A. Churchill, London.)

The greater part of this number is occupied by four articles: The Teachings of Failure, by Dr. Markham Skerritt; Two Cases of Locomotor Ataxy with Charcot's Joint Disease, by Dr. Henry Davy and Dr. Arthur Blomfield; Health Resorts in the West of England and South Wales,—Bath, by Dr. A. B. Brabazon; and the Early History of the Bristol Medical School, by Augustin Prichard, F.R.C.S. The "Progress of the medical sciences" is not only interesting and useful on account of the information in it, but is of further use owing to the list of references given.

The A. B. C. Pocket Diary and Memorandum Book for Physicians and Pharmacists, 1893. (Burroughs, Wellcome & Co., London.)

This is a very convenient diary, of such a size that it can be easily carried in a pocket. It consists of a diary portion, seven days to a page; a portion for addresses, the pages being lettered to facilitate the registering of these; and a portion for cash accounts. It also contains a schedule of postal information. The diary fits in a neat wallet, which has pockets at one end for stamps and cards, whilst at the other end there is a very convenient arrangement for holding loose slips of paper.

THERAPEUTICAL NOTES.

Salol in Acute and Chronic Catarrh of the Bladder:

Dr. Arnold (*Therapeut. Monatshefte*) thus sums up his experience of the use of Salol in the above-mentioned class of cases: (1) It makes alkaline urine acid. (2) It removes the foul odour. (3) The cloudy urine clears up, the purulent, slimy sediment diminishes steadily. (4) As a rule the urine is diminished in quantity. (5) It is readily tolerated by the stomach for a more prolonged period than any other remedy. (6) It is a good assistant in washing the bladder, especially when only a slightly antiseptic solution can be borne.

Dr. Arnold gives 15 grains three times a day, but at the same time carefully carries out the local treatment as well.—(*Ther. Gazette*.)

Oil of Camphor Subcutaneously for Pulmonary Tuberculosis:

At a recent meeting of the Berlin Medical Society, Alexander (*Münchener med. Wochenschr.*) related that he had employed Oil of Camphor subcutaneously for three years in the treatment of Pulmonary Tuberculosis. The results were to be found in increased motor power, a strengthening of the action of the heart, improved digestion, diminution of suppuration, antihydrosis, antipyresis, and hypnosis. As the action of the oil proved to be cumulative, an injection of fifteen minims was practised on each of four consecutive days, followed by an interval of a week. In febrile pulmonary cases only a minim and a half were injected; in febrile laryngeal cases, however, fifteen minims. In the latter cases local treatment with equal parts of Oil of Camphor and Olive Oil proved useful. The treatment seemed best suited for advanced cases.

FORMULÆ.

For Pertussis. (Kraissmann, *Therap. Monatsh.*):

| | | | |
|--------------------|-----|-----|-------|
| R. Resorcin | ... | ... | gr.v |
| Antipyrin | ... | ... | gr.xv |
| Aquæ Menth. Piper. | ... | ... | fʒj |
| Aquæ Destillat | ... | ... | fʒj |

M.

For the Ephelides of Pregnancy. (*L'Union Méd.—Med. News.*):

| | | | |
|----------------------|-----|-----|----------|
| R. Zinci Oxidi Pur. | ... | ... | gr.v |
| Hydrarg. Oxid. Flav. | ... | ... | gr.xx |
| Otto Rosæ | ... | ... | gtt.x |
| Ol. Ricini | ... | } | āā ʒiiss |
| Ol. Theobromæ | ... | | |

M. Ft. unguent. Sig. Apply topically with gentle friction twice daily.

For Balanitis. (Chichester, *L'Union Méd.*):

| | | | |
|-------------------------------|-----|-----|-------|
| R. Atropinæ Sulphat. Neutral. | ... | ... | gr.j |
| Zinci Sulphat. | ... | ... | gr.ij |
| Acid. Boric. | ... | ... | gr.iv |
| Aquæ Destil. | ... | ... | fʒj |

M. Sig. Apply topically twice or thrice a day by means of a brush. If the Balanitis is complicated by Phimosis, a small quantity of the solution is injected between the glans and the prepuce.

THE CLINICAL JOURNAL.

WEDNESDAY, FEBRUARY 1, 1893.

A CLINICAL LECTURE

ON

SOME PECULIARITIES OF DISEASES AFFECTING CHILDREN.

Delivered at Guy's Hospital, Dec. 1892,

By P. H. PYE-SMITH, M.D., F.R.S.,

Physician to the Hospital.

GENTLEMEN,—We have, as it happens, an unusually large number of children in our two clinical wards; and I propose to speak to you of some of the peculiarities in the natural history, the recognition, and the treatment of diseases when they occur in children.

We have a boy, 7 years old, with anæmia-lymphatica, or Hodgkin's disease; another, 6 years old, with pleural effusion; two between 9 and 12, with rheumatic peri- and endo-carditis; a boy of 14, convalescent from enterica, with periostitis of the femur; a healthy child of 4 brought in for convulsions; two cases of diphtheria in children between 12 and 18 months old; a case of favus in a little Scotch girl of 5; one of lobar-pneumonia in a girl of 12; and one of anæmia splenica (without leucæmia) in another of 13. There is a remarkable case in a girl, also 13 years old, and now convalescent from enteric fever, who was under my care, six years ago, with optic neuritis and other symptoms, as I believed, of cerebellar tumour. There is now optic atrophy, with complete blindness, but she is otherwise well. By a curious coincidence, we have in the same ward a girl, now 11 years old, dying by coma from tubercular meningitis, who was in the hospital three years ago with hemiplegia, convulsions, and other symptoms, which were regarded as evidence of a tumour in the motor tract of the cerebrum.

To continue our cases in children, we have a new-born infant brought in for rectal hæmorrhage, which has not returned; a child, 4 years old, convalescent from severe broncho-pneumonia, after decided benefit from inhalation of oxygen; another of 18 months, convalescent from general bronchitis, with a large patch of pneumonia at the right apex; and a child, somewhat under 3 years old, has died this week from advanced tubercular

disease of the chest, abdomen and lymphatic glands.

The period of childhood is usually divided into *infancy*, from birth to the completion of the first dentition, and later *childhood*, from two years old to puberty. Or we may distinguish the following stages:—(1) Early infancy, the sucking age, from birth to the appearance of teeth about the sixth month. (2) Later infancy, the dribbling age, from the commencement to the end of teething. (3) The time when the form and physiology of the child are most characteristic—its large head and plump limbs, its vivacity and inconstancy, its beauty and its frailty. This period lasts from the completion of dentition to the eighth or ninth year—when the child begins to grow rapidly, becomes thin and sometimes pale, while still in good health, and begins to show the mental qualities of the adult. (4) The period between eight or nine and fourteen or fifteen years, perhaps the least beautiful age in outward form of human life, but interesting from what it is to become, when the differentiation of sex has taken place, and the girl or boy has developed into the woman or the man.

Of these four periods we will omit the first and the last, and speak of diseases as they affect children between the second and the tenth year.

First, do not forget the *anatomical* peculiarities of the child's frame. The brain, as you know, is comparatively far larger than in the adult, so that if you are shown the brain of a child of three years in the deadhouse you may readily mistake it for that of an adult. The forehead is more projecting, and the bosses of the frontal and parietal bones more salient, while that of the occipital is less so than in after life.

The nasal passages are naturally small, and a narrow jaw with high-arched palate and enlarged tonsils, may still further narrow the respiratory passages. Hence, apart from the presence of lymphatic overgrowths in the upper pharynx, children are apt to breathe through the mouth during the day and to snore at night. If, then, you have to feed a child by a nasal tube, use as small and soft a catheter as you can: often you may attain your object by pouring liquid food into an aural speculum lightly inserted into one of the anterior nares.

Again, the undeveloped larynx of the child offers by its smaller calibre more obstruction when affected by swelling of its lining membrane than in the adult: one of the reasons for the great danger of laryngeal diphtheria in young children.

The child's chest is small, and often morbidly contracted by rickets and collapse of portions of the lung. In the healthy child it is nearly circular in section, bulging below the clavicles and moving less freely than the diaphragm in respiration; so that the child's thorax is like that of deep inspiration, or of emphysema in the adult, and the respiration is chiefly abdominal, as in the latter disease. The small thoracic space and high diaphragm lead to the cardiac dulness and the apex beat being higher by a rib or a space than in the adult.

The liver, like the brain, is far larger in proportion than in later life, and can always be felt below the ribs. The whole abdomen is of greater size compared with the chest, and projects so much as to lead one new to clinical observation to suppose that a healthy child has *tabes mesenterica*.

The legs are relatively short, and before a child walks are naturally bowed, with an inclination of the soles of the feet inwards; a natural condition quite distinct from the anterior curvature of the tibiæ in rickets, and disappearing soon after the child has learned to walk.

Of the special *physiology* of children, I may remind you that the pulse is naturally more frequent, the temperature more labile, digestion more active, and the nervous system far more susceptible than in the adult.

Accordingly we find by experience in disease, that a pulse of 120 has not the same significance in a child as in a grown person, nor yet a temperature of 104°. The thermotaxic mechanism in children is easily disturbed, and as readily returns to its normal condition. They need constant care during illness—most of all when infants, but also at a later period—to keep up the temperature.

See that the limbs are warm, and, if necessary, bandage them in cotton wool. But remember that if you keep a sick child properly warm, even when there is no fever, it will be thirsty; let it drink freely. Remember that milk and broth are food, and do not quench thirst. All patients with fever, whether children or adults, should be allowed to drink water, or barley water, or toast and water, apart from the liquid nourishment given them. The only exception in the case of children

is when, from pain in swallowing or from waywardness, the patient refuses to take its milk; then, if water is denied, it is compelled to make the necessary effort to take its nourishment.

The instability of a child's central nervous system is shown by its liability to convulsions, particularly between 6 months and 2 or 3 years of age. Even in older children a convulsion often begins an attack of an eruptive fever or of pneumonia, and answers to the initial rigor in an adult. Children are exclusively liable to laryngismus stridulus, and other spasmodic diseases, such as tetanilla and chorea, are far more frequently met with in childhood than in later life.

The diseases of children are, as we should expect, fewer and simpler than those of adults. They suffer from hereditary transmission of tubercle and syphilis, from the first attack of the various contagia which afterwards protect against themselves, and for which the child's body furnishes a virgin and congenial soil. They are peculiarly liable to certain diseases of the brain and spinal cord, and to invagination of the bowel, which may, perhaps, be regarded as a lesion of nervous origin. They are very prone to bronchitis and broncho-pneumonia in the winter, and to diarrhoea in the summer. But they are free from gout and acquired syphilis, from the effects of drink and of over-eating, of late hours, irregular meals, and strain upon the muscles, the lungs, or the heart; and although dental caries, beginning in the milk teeth, and atheroma (usually appearing where the aorta makes its turn downwards) occurring under 10 years of age, warn us that even in children decay has already begun, yet the clinical appearance of degenerative diseases is delayed until long after the period of puberty has passed.

The remarkable liability of children to (acute) rheumatism is unquestioned; its explanation must wait until we obtain some probable insight into the true pathology of this disorder.

With few exceptions, the diseases of children also affect adults, but they are different in certain particulars. They all tend to run a more acute course in children, more quickly reaching a critical stage, and more quickly passing on to convalescence and then to health. They are less often complicated by intercurrent diseases, and therefore observe a more typical as well as a shorter course. They are also fewer in number, and for both these reasons, their diagnosis is more easy. The fact that young children cannot describe their symptoms

Or give a history of their complaint is sometimes a difficulty; but the mother's account is usually more accurate than one she gives of her own illness; and we must remember that although a history will often guide us right, it may also misguide.

Another important pathological character in the diseases of children, beside their more acute course and simple character, is their *generalisation*. Morbid processes which in the adult are usually confined to certain organs, or affect certain parts only of these organs, are in children far more widely distributed. The tissues of a child are not yet so differentiated as they afterwards become.

In *diagnosis*, the following precepts you may find useful. When listening to a child's chest, do not mistake the naturally loud and somewhat harsh respiratory murmur for bronchial breathing; percuss before you auscultate, and percuss lightly; if the child begins to cry, it spoils your percussion, but you will have a good opportunity of hearing vocal resonance and feeling vocal fremitus. In examining the abdomen, take care that your hands are warm, use the palmar surface, not the points of your fingers, and remember that the liver naturally extends below the ribs. You are deprived of the information derived from the sputum until a child has learned to expectorate, which may be not until it is six or even seven years old. In taking the temperature in young children, choose the groin rather than the axilla, they will bear the legs being restrained much better than the arms. Never use the mouth for this purpose, but rather the rectum. When a child is sleeping, or it is for other reasons undesirable to disturb it, you can form a good opinion as to the degree of affection of the chest by noticing the frequency of the breathing, the action of the *alæ nasi*, and other movements of forced respiration, the amount of sucking in of the neck and lower ribs and epigastrium during inspiration, and the degree of cyanosis. Empyema leads quickly and surely to clubbing of the fingers.

With respect to *prognosis*, remember the great danger of diphtheria and other laryngeal affections on account of the narrow passage and soft structure of the air passages in children. Also the risk of suffocation from failure of strength in the muscles of respiration—and of syncope from corresponding failure, often associated with acute dilatation of the cardiac ventricle. Remember also the liability of children to sudden and fatal collapse after injuries and operations.

On the other hand, a high temperature and a very frequent pulse, which would be of grave or even fatal import in an adult, are far less serious when they occur under puberty. Convulsions again, as in the case above referred to, are of comparatively little significance.

Excepting diabetes, diphtheria, scarlatina, and pulmonary phthisis, most diseases which are common to children and adults admit of a more favourable prognosis in the latter case. This is particularly true of acute lobar-pneumonia.

Lastly with respect to *treatment*. Avoid operations while you have a choice, but do not shrink from them in cases like empyema, vesical calculus, or invagination, which has resisted repeated attempts to inflate the bowel. Always give chloroform, and be careful to maintain the body heat. Chloroform may also be advantageously used in all physical examination which would be otherwise painful, alarming, or impossible.

With respect to clothing, let the undergarments be warm, the outer ones light. Let delicate children be clothed in flannel, and then allowed to run out of doors. They are seldom better for beer, but in acute diseases they often owe their lives to the free and well-timed exhibition of brandy.

Cod liver oil is a food, but a food which nourishes beyond what the quantity taken would promise: it seems to set an example which is followed by other kinds of nutriment. Children almost always will take it, if given at first in very small doses, preceded by a pinch of salt and followed by a piece of orange peel: there is no substitute for this invaluable medicine.

Some other drugs are particularly useful in the disorders of childhood. Iron most frequently of all. Steel wine for infants, the saccharated carbonate for older children, and the tincture of steel with glycerine in convalescence from rheumatism and fevers are perhaps the best forms; but whatever they take best and most of is the best for them.

Bitter and acid medicines are distasteful to children, and not often necessary. Quinine is certainly the best.

Opium is better avoided if possible, but sometimes it is necessary, and is then, I think, most safely given as so many drops of laudanum administered separately in a little syrup and water.

Three drugs are of special and peculiar value in children: Mercury, Arsenic, and Belladonna, and the latter two may, and usually should, be prescribed in larger proportional doses than in adults.

Mercury has, like other good things, been abused, but apart from its antisymphilitic value, it is undoubtedly of signal benefit when used with discretion in other diseases, in tubercular meningitis, in tubercular peritonitis, and in small and continued doses in certain derangements of the bowels, accompanied with wasting. Modern experience, on the other hand, seems to show that it is useless in pleurisy and pericarditis, in tuberculosis of the lymph-glands, and broncho-pneumonia, and injurious in cases of cardiac and renal disease and anæmia generally.

Of the value of Arsenic in cases of chorea and obstinate eczema in children there is no need to speak, except to insist on the importance of beginning with moderate doses and steadily increasing them. I have more than once seen eight or ten drops of Fowler's solution, taken daily after food, tolerated by a child of less than eight years, and curing chorea which had long resisted other drugs.

Blisters should never be employed in the case of children under 7 or 8 years old. They cause much distress and may lead to troublesome supuration. Linseed poultices are much better applications than mustard plasters, and not only relieve local pain and tension, but favour perspiration. They must, however, be frequently changed, and not continued for more than a day or so; otherwise the skin is apt to become sore or to break out in boils. Moreover, poultices are too heavy an addition to the effort of expanding the chest in weakly children. A jacket made of cotton wool is much better in these cases, particularly if the skin be also rubbed with olive oil.

Leeches are often useful, and children bear moderate depletion by this means very well. They should be applied over the mastoid process, the sternum or the ribs, so that subsequent hæmorrhage may be easily checked by compression.

Give as little physic as you can, and make it as palatable as possible; pay great attention to clothing and diet; insist on fresh air; visit your patient at least every day; and never give up hope until rigor mortis occurs. Children fall ill quickly, and in twelve hours may pass from health to imminent danger, but they recover almost as quickly. They have, after the first few months of infancy, great power of resisting disease, and unequalled power of rallying from extremes of emaciation, weakness, and prostration. Of patients who linger long at the gates of death, and yet at last return to life and health, most are children.

SOME CLINICAL REMARKS

ON

TWO CASES of MASTOID DISEASE.

Delivered in the Theatre of St. Mary's Hospital

By A. J. PEPPER, M.S., F.R.C.S.,

Surgeon to the Hospital.

HERE are two cases on which I operated on the 12th inst., which illustrate very well the course commonly taken in neglected Mastoid Disease. I will first give you a brief history of each case.

W. L., aged 13, had measles in infancy. He is said to have been always deaf in the right ear; but whether this was in consequence of otitis media, the result of an attack of measles, is doubtful. He experienced no trouble with his ears beyond the deafness, until October, 1891, when discharge first made its appearance in the right ear. This subsided, and practically ceased in two months. A month later an abscess formed over the mastoid process, which was poulticed and incised. Shortly after, an abscess formed in the middle ear, which burst spontaneously and discharged very freely. Since then the discharge has never ceased. On admission the general health was good, and the only complaint with regard to the ear had reference to the discharge and deafness; there was neither pain nor tenderness. On examination a fissure could be seen in the tympanic membrane, and over the mastoid process was a sinus; but the hearing, although impaired, was not annulled. I made a semi-lunar incision over the mastoid with its centre at the level of the junction of the upper and middle thirds of the external meatus; a probe passed through the opening in the bone, and sank deeply into the petro-mastoid. Portions of the bone readily broke down, whilst others, though bare, were perfectly hard. The orifice was enlarged with chisel and mallet, and a quantity of granulation tissue removed with a scoop. The posterior wall of the meatus was broken through, and a drainage tube passed from the mastoid behind and out at the ear. It is now a week since the operation, and the patient has had no bad symptoms; the temperature has never risen above normal. The parts are syringed freely twice a day with boracic solution, and a pad of perchloride wool is kept over the wound and meatus. The case was clearly not of tubercular origin.

The second case was that of a little girl, aged $2\frac{3}{4}$ years. She had been a fairly healthy child with the exception of an attack of pleurisy. While under treatment for this an abscess formed in the left middle ear, and the discharge has been continuous since. Nine months ago suppuration occurred over the mastoid. The abscess was lanced, and the discharge after a time ceased. Subsequently an abscess formed on the same site on three occasions, the last two or three months ago. There was a small sinus opening on to the mastoid half an inch behind the left external auditory meatus. There was a swelling, the size of a cobnut, below and behind the mastoid. The skin, which was ulcerated over it, was undermined, and a mass of disintegrating tissue protruded through the opening. On examination with the speculum the upper part of the tympanum was found to be perforated, and a thick discharge was oozing from the orifice. The mark of an old perforation was found on the right tympanic membrane, but the patient was not very deaf.

The operation I performed was exactly the same as in the previous case, but the bone was carious to a much greater extent. The swelling behind the mastoid before referred to had all the appearances of a tubercular gland. After removal, this opinion was confirmed, as the mass consisted partly of grey granulation tissue, partly of cheesy débris. The edges of the skin were pared, and the wound closed with sutures. On two occasions the evening temperature has risen to 100° F., at other times it has been normal. The child suffered no local inconvenience from the operation, and its general health has not been disturbed. I think there can be little doubt that this case was of tubercular origin, and I base this opinion, firstly, on the extremely rotten condition of the cancellous tissue of the mastoid, and partly on the nature of the affection of the lymphatic gland.

The usual treatment for acute suppuration, such as poulticing and leeching, is very appropriately followed in the early stages of inflammation of the middle ear. When an abscess is formed, it is better that a free incision should be made through the bulging tympanic membrane. If the general health of the patient be satisfactory, and strict attention be paid to the local treatment, in some cases, no doubt, the disease comes to a typical end by resolution, but in many the patients are weakly children, coming, perhaps, from tubercular or syphilitic parents. They may have been exposed

to privation, or, again, the initial cause may be some acute disease, and *par excellence* one of the exanthematous fevers, although, no doubt, the previous state of health has much to answer for as regards the subsequent course of the local disease. I believe still more depends upon the neglect of strict antiseptic treatment, and from deferring or omitting to operate on the cases sufficiently early.

The two cases just referred to show very clearly that although the local symptoms subside after the abscess in the ears has been opened, the discharge is prone to continue indefinitely, and there is great likelihood of exacerbation of the local inflammation. One sees so often abscesses forming alternately in the middle ear, and in and over the mastoid. Most of the latter are consecutive to suppuration in the interior of the bone, but it is possible to meet with a sub-periosteal abscess in cases when the bone in the interior is free from pus; and again an abscess forming originally in the middle ear may work its way between the cartilage and the bone, and so simulate true mastoid abscess. However slight the symptoms of chronic suppurative disease of the middle ear, they are still of great importance, because at any time, either from the action of cold and wet, or from some accidental infection of the discharge, acute suppuration may again be set up, with all the original dangers. Apart from this, chronic ear disease is a constant source of danger to the life of the patient, for, although in consequence of there being an opening in the membrana tympani, and perhaps a perforation in the outer plate of the mastoid, the tension is considerably relieved, and the patient correspondingly free from pain; yet the carious process continues, and inflammation progresses insidiously, until one finds some graver symptoms manifest themselves. The facial nerve, for instance, may be palsied, or basic meningitis declared; or, still further, there may be definite signs of cerebral or cerebellar mischief; lastly, alone or in conjunction with other changes, the lateral sinus may be blocked. Now, I do not hesitate to say that only a fractional percentage of the cases of chronic suppurative disease of the middle ear, with consequent affection of the bone, would not recover perfectly if the patients were operated on sufficiently early.

In my opinion there are two definite conditions which should at once determine an operation: firstly, where there is long-continued aching pain with tenderness over the mastoid, even in the

absence of suppuration or oedema external to it (but in most of these cases there is distinct tenderness on percussion); and secondly, when a mastoid abscess has burst, or has been opened, an exploration can do no possible harm, and I maintain that in the great majority of cases evidence will be obtained thereby which will lead to further operating procedure, for in the greater number of cases, abscess over the mastoid means destructive disease within.

One word with regard to the extent to which the scooping operation should be carried. Of course, all granulation tissue and soft carious bone should be scraped away, and it is not uncommon that the bony walls of the middle ear are affected continuously with the cancellous tissues of the mastoid; but it should be borne in mind that even where suppuration of the middle ear has lasted for months or even years, the ossicles, and especially the stapes, may remain ankylosed, they may be yet capable of transmitting sound. This fact should be remembered while operating, so as not unnecessarily to increase the deafness which the original disease has caused.

So far I have not spoken of acute suppuration of the mastoid; this one sees most commonly in cases of scarlet fever. The inflammation spreads rapidly from the middle ear to the mastoid antrum and cells. There is imminent danger to life from extension of the disease to the cranial cavity, but perhaps to a greater degree from pyæmia. No time can be lost; it is not a question of days, but hours; the mastoid should be trephined and the pus evacuated.

It is to be feared that the close proximity of the lateral sinus, with the possible fact that the juxtaposed layer of bone may have been absorbed, has stood in the way of deep operations on the bone. But the sinus is definite in position and immoveable, and, consequently, if the operator proceed with care and due attention to the situation of the sinus he need fear no mishap. A wound of the sinus would be a surgical calamity, but not necessarily fatal. There is another class of cases in which it is the duty of the surgeon to lay open the sinus—that is, when it is blocked with septic clot.

For Pruritus Ani. (*Med. and Surg. Reporter*):

| | | | | | |
|----|--|-----|-----|-----|-----|
| R | Acid. Carbolic. | ... | ... | ... | 3j |
| | Camphor. | ... | ... | ... | 3j |
| | Adipis | ... | ... | ... | 3ij |
| M. | Ft. unguent. To be applied frequently. | | | | |

A CLINICAL LECTURE

ON

UTERINE FIBROIDS,

And the Changes which they undergo in Association with Menstruation, Child-bearing, and the Menopause.

Delivered at the Middlesex Hospital, January 13th, 1893, by

ROBERT BOXALL, M.D., M.R.O.P.,

Assistant Obstetric Physician to, and Lecturer on Practical Midwifery at, the Middlesex Hospital.

GENTLEMEN,—I want to-day to run over some points in connection with the subject of Uterine Fibroids. The subject is, of course, a large one, and there are many aspects of it which must be entirely omitted from my remarks, and others which will be dismissed with a bare mention. But the main point to which I wish to direct your attention is the changes which these tumours undergo in association with menstruation, child-bearing, and the menopause.

I need scarcely remind you that such tumours are exceedingly frequent; that, as regards their nature, they are homologues of the uterine muscle, and are composed of fibrous and muscular tissue: that they are more frequently multiple than single; that they may occur in any part of the uterus, more frequently in the body than in the cervix; that they start into active growth during menstrual life, sometimes beginning early, sometimes late; that both the rapidity and amount of growth may vary very considerably—the masses may sometimes attain enormous proportions.

With regard to their mode of growth and the shape which they assume, they tend to spread in three directions. Beginning interstitially, a mass seated near the peritoneal surface tends to bulge outwards, and may eventually become a sub-peritoneal polypus; other masses may grow towards the cavity of the uterus beneath the mucous membrane, and eventually give rise to intra-uterine polypi; or again, if situated low in the cervix, it not frequently but sometimes happens that they grow downwards into the vagina. I have known a mass, springing from the cervix, grow between the layers of the broad ligament; but a fibroid in that situation is quite a curiosity.

Now with regard to the symptoms, they may be put into two categories. The symptoms in direct association with the growth of these

tumours are hæmorrhage and leucorrhœa. The excessive loss more usually takes the form of an increase at the periods—menorrhagia rather than metrorrhagia. It may be that the period comes on too frequently, it may be that it lasts an unusually long time, or again, it may be that the daily loss is excessive. Sometimes you will find that all these occur in combination. Sometimes, however, you will find that there is loss in the intervals as well; but this is not so common as menorrhagia by itself, and when present metrorrhagia is usually associated with leucorrhœa.

Now these symptoms—the hæmorrhage and the leucorrhœal discharge—will be found to depend not so much upon the size of the fibroid as, in the first place, upon its original site, and on the form which it eventually assumes, and, in the second, upon its association with disease of the mucous membrane induced by the presence of the growth. Sometimes you find a large sub-peritoneal growth without any discharge at all, while on the other hand you may have quite a small growth just beneath the mucous membrane, accompanied by profuse leucorrhœal discharge and excessive hæmorrhage. And in those cases where hæmorrhage accompanies sub-peritoneal fibroid the loss is almost invariably due to the presence of other growths—either in the wall, or immediately beneath the mucous membrane, or maybe to a polypus. At the same time it may be noted that an interstitial growth, even of large size, may exist without excessive loss. Again, when a fibroid commencing in the cervix grows down into the vagina, hæmorrhage is usually absent, unless some other part of the uterus be similarly affected.

As for other symptoms, they are the result of pressure. Thus, you may find mere bearing-down; or the bladder function may be interfered with—which is often exhibited by frequency of micturition, and occasionally by retention; or the bowel may be pressed upon, and constipation result, but rarely stoppage; or the veins of the pelvis may be pressed upon, and varicose veins and œdema of the lower extremities, one or both, may ensue, and pressure may be exerted upon the nerves, giving rise to cramps in the legs and neuralgic pains. It will occasionally happen, though by no means frequently, that the ureter may be pressed upon so as to induce hydronephrosis; and finally, in the case of very large tumours the diaphragm may be pressed upwards, and the breathing and the heart's action affected.

Now these pressure symptoms will depend mainly on one of two factors—the excessive size of the swelling and the possibility of its becoming impacted in the pelvis.

Generally speaking, the larger the swelling the greater the likelihood of pressure symptoms.

But apart from excessive size, marked pressure symptoms are liable to be induced either when the swelling grows in the pelvis so as to fill its cavity, or when the growth, being of such a size that it can just enter the brim, is suddenly forced into the pelvis, and there becomes impacted.

There seems to be a general impression that fibroids do not occur, or, at any rate, do not give rise to manifest symptoms in patients under 30 years of age.

In this place, let me draw your attention to the following examples of fibroids giving rise to symptoms in early life.

There was a patient attending here, not long ago, who was only 23 years of age; she was sent under the impression that she was pregnant. For six months the periods had been coming on every two or three weeks, and had lasted a full week (three days longer than usual), though the daily loss had not increased. She had become pale, and suffered from leucorrhœa and frequent micturition. She had a swelling rising up to the level of the umbilicus, feeling much like a pregnant uterus, but rather firmer and more irregular. It proved, on examination, to be an interstitial fibroid of considerable size, one on either side of the fundus, growing towards the abdominal surface, and though she had had a child some four years previously, she was not then pregnant. Since delivery she had noticed that the swelling had increased just before, and subsided during each period.

Another patient, 23 years of age, was becoming blanched by excessive loss; she was married, and had never been pregnant. In this case, again, there was a large sub-mucous fibroid, involving the right side and posterior wall of the uterus. The womb was enlarged to the size of a four months gestation, and as regularly. In order to explore the tumour, and with a view to removing it, had a polypus existed, the cervix was artificially dilated. The diseased mucous membrane which existed was removed with the curette, but the patient would at that time submit to no more radical measure. For some months subsequently, however, the excessive flow remained in abeyance; but eventually, as was anticipated, the hæmorrhage

returned, and the fibroid itself was efficiently dealt with. Nevertheless, from the fact that the curetting afforded temporary relief, this case shows that a sub-mucous fibroid of considerable size may exist for months without excessive loss.

Many such cases as these to which I have referred to could be quoted.

Not only does the period of active growth vary very considerably, but the rate of the growth, when it does commence, varies also. As a rule, the more rapidly growing fibroids are softer and semi-elastic. The harder forms do not grow so rapidly. The softer fibroids are less common, and it is in some of these cases that the physical signs present make it difficult to distinguish them from vesicular mole, or from pregnancy with threatened miscarriage in the early months, for as long as this latter possibility exists the use of the sound is contra-indicated. In such cases time is an important element in diagnosis, and eventually serves to resolve the doubt.

I may also further remind you that these tumours are liable to undergo structural changes, *e.g.*, they may calcify, they may become cystic, they may become inflamed. It is on account of this last-named possibility that sometimes a sub-peritoneal fibroid may acquire a new attachment, and its original pedicle may all but disappear, and be represented by a thin fibrous cord. Through inflammation again, a polypus inside the uterus may become adherent to the wall of the uterus. I had in one case great difficulty in separating such a polypus from the wall of the uterus itself. The patient was 45 years of age, and had had five children and six miscarriages. She was admitted on account of a severe flooding which had come on quite suddenly a month previously, and had been followed by an inoffensive colourless discharge. The uterus reached to within two inches of the umbilicus. A considerable portion of the mass had been removed with an *ecraseur* some weeks previously, but the part that remained was as large as the foetal head, and was beginning to break down. Its nutrition had been carried on to such an extent by adhesions, that it was impossible to discover from what precise part of the uterus the pedicle of the polypus sprang; separation was eventually effected by dragging down, and temporarily everting the uterus. I may further remind you that these fibroid polypi may slough. You saw an example of this two days ago. That is one way in which they disappear. Another manner is

by extrusion and spontaneous expulsion of the mass from the uterus, the pedicle elongating and eventually giving way. You may remember that this happened in the case of a patient who was attending as an out-patient a short time ago. Sometimes, in the cases in which inflammation takes place, to the other symptoms will be added pain. Fibroids, as a rule, are not painful unless they become inflamed. But during the process of expulsion of a polypus, pain similar to that of miscarriage is sometimes experienced; and, again, when from the presence of a fibroid the flow is excessive, menstruation is often painful.

I have now spoken of some structural alterations; but I wish next to refer to variations in size apart from structural changes. There was a patient here a week ago who had been under observation for the last three years; she had a large swelling in the right side of the abdomen, reaching up a little above the level of the umbilicus. It had been first noticed by herself during pregnancy. Six weeks before she was sent to me, she then being 38 years of age, her first and only child was born at the eighth month. The growth was of such a size that her medical attendant at first thought that there might be another child. She has never experienced any inconvenience from its presence. It was a well-defined hard swelling; for months I have been in the habit of making careful measurements of the tumour, and you have noticed that that swelling was found to vary very considerably on each occasion, though I was careful always to make the observations at the corresponding time with regard to the periods. The point which the case exemplifies very conclusively is the variation in the size of the growth, though she was kept under the same treatment throughout.

Apart from these irregular variations there are certain variations which constantly occur in connection with menstruation. It frequently happens that a patient will come complaining of a swelling in the abdomen. Now if, without putting any leading questions, you obtain from her the statement that the swelling gets larger just before the periods, and diminishes in size during the periods, you may be almost certain that you have a fibroid to deal with. Of course, she herself will not be able to appreciate this difference unless it is a large fibroid, but if it is, this variation becomes an important factor in diagnosis. I have already quoted a case in point. Many others could be instanced.

Then with regard to the question of child-bearing, fibroids are apt to produce sterility, and if a woman does become pregnant they are apt to produce premature labour and abortion, especially when embedded in the uterine wall and accompanied by endometritis. In the last case mentioned, delivery occurred at the eighth month. In the following, the patient has been twice pregnant, and on each occasion miscarriage has resulted. This lady married at the age of 32, and a month later became pregnant. Until that time no indication of the presence of a fibroid existed. The abdomen then enlarged rapidly, much more rapidly than in a normal pregnancy, the swelling assuming a very irregular shape. She miscarried at the fifth month. When I first saw her in consultation immediately after that event, three distinct masses could be felt in the abdomen, rising some distance above the navel. In the second pregnancy, she miscarried at the sixth month, the mass being then of sufficient size to interfere materially with respiration, and to cause much discomfort.

At the same time I ought to tell you that the presence of a fibroid, even of considerable size, does not always interrupt the pregnancy. For example, I have known two patients, the subjects of fibroids of large size, who have carried twins to term or nearly so, and, moreover, made good recoveries subsequently.

During the course of labour interstitial fibroids are apt to produce inertia, for the uterus thus affected is less capable of fulfilling its proper functions; and not only so, but difficulty may be experienced from obstruction brought about by the tumour. This applies particularly to fibroids which have become pedunculated on the peritoneal surface, so as to hang down in front of the advancing part and obstruct the pelvis, and also to fibroids which are situated low down in the wall of the uterus and so encroach on the pelvic canal; and, more particularly, to such fibroids as grow in the lip of the cervix.

Some three or four years ago a patient was sent to me from Greenwich with a large swelling in the vagina. She complained of retention with constant dribbling of urine for four months; she also said that during the previous weeks the breasts had become a little enlarged. On examination, a large mass was found occupying the whole of the pelvis; it was soft and elastic, and felt as if it had a solid body inside. It was impossible to reach the cervix, but above the pubes through the abdominal wall

could be felt a hard lump about the size of a hen's egg, which eventually proved to be the body of the uterus of normal size. It was impossible, without further examination, to say what the nature of the case might be, and indeed I quite thought it might be a case of retroverted uterus associated with pregnancy. The patient was 41 years of age, and during her married life of 21 years had had seven children, the last having been born three years previously, so that further impregnation was not at all unlikely. The mass could not be pushed out of the pelvis. Rectal examination showed that it was not connected with the bowel. On the following day she was placed under an anæsthetic, and with great difficulty it was then possible to reach the cervix above the pubes, and the upper part of the swelling felt through the abdominal wall, which I had thought might be the cervix, turned out to be the fundus. The sound passed the normal distance. The large mass in the pelvis was then found to be due to a growth in the posterior lip, the anterior being stretched over half the circumference. This was removed by the aid of the wire ecraseur and scissors.

You here see the specimen obtained from this case. It affords an explanation of the hard mass felt floating, as it were, in the centre of the pelvic swelling. The tumour was exceedingly œdematous, and fluid had been infused into the capsule of the fibroid, so as to give the impression of a solid body in a thick walled sac containing fluid. It felt, in consequence, exceedingly like a retroverted gravid uterus. The absence of hæmorrhage, the supposed enlargement of the breasts, and the retention of urine were in favour of it.

A case of a somewhat similar nature you saw here a few months back. The patient was a widow, 53 years of age, who had had one child when 25. The periods had continued regularly, but for a month there had been continual slight loss. For a week or more the patient had suffered great distress—constant dribbling away of urine and cystitis; and for three months the legs had been swelling so much that they had doubled in size. The tumour completely blocked the pelvis, and could not be displaced. It had grown in the posterior lip, and here again the anterior lip had become expanded over it, and the body of the uterus was not enlarged. An incision was made over the swelling, and partly with the finger and partly by the aid of midwifery forceps I eventually

succeeded in enucleating and extracting a mass the size of a cocoanut which, when deprived of blood, weighed 1 lb. 5 oz. In a fortnight the capsule had shrunk and left a depression barely as large as a nutmeg.

Had these patients been pregnant, it would have been impossible to have extracted the foetus by the natural passage without first dealing with the fibroid which was obstructing it. But not only does difficulty arise in labour from obstruction, if a fibroid encroaches on the lower part of the uterus, but when so situated it is very liable to produce some mal-presentation owing to the place which it occupies.

It was only three or four weeks ago that I had an opportunity of showing you a specimen of central placenta prævia. It was in the case of a patient—a young woman of 27—who had, and still has, a fibroid in the anterior wall of the uterus, bulging towards the cavity. That patient had a placenta situated in the lower segment of the uterus, coming entirely in advance of the foetus. The whole of the uterine contents were extruded entire in the sixth month of gestation. Since her first confinement, more than three years ago, she had noticed in the abdomen a distinct lump, which had gradually increased in size, but was always at its largest just before each monthly period, and shrank during the time that the flow was taking place. For some months it had continued steadily to increase, without any variation in connection with the hæmorrhage which had taken place at more or less regular times during gestation. In consequence of this loss she had not the slightest idea that she was pregnant.

Then, again, after the delivery of the child, danger is apt to arise from hæmorrhage in connection with the placenta, especially if the placenta is situated over the site of the fibroid itself.

Generally speaking, it may be said that fibroids start into active growth during pregnancy, and that as long as the pregnancy persists they continue to increase in size. Last week, there was a patient here in the out-patient room who had her uterus enlarged to about the size of a four or five months gestation, and, from the fact that the uterus is somewhat irregularly enlarged, I think it quite probable that she has a fibroid in addition to the pregnancy; but as she has seen nothing since the last child was born, and you have not the excessive increase in size (which you can, as a rule, only judge of by the cessation of the periods), the case is still *sub judice*.

A patient coming as an out-patient here three or four years ago, presented a similar condition, having fibroids in the wall of the uterus, and sub-peritoneal fibroids in addition. She was 42 years of age, and had had one child five years previously born a fortnight before time. As often happens in such cases the development of the foetus was interfered with—the child was small, and only lived three days. The tumour was first noticed immediately after delivery, and seemed gradually to disappear within the six months which followed. Nearly three months before she came under observation she became pregnant again, but of this fact she was not aware. She had, however, noticed that the swelling had made its reappearance three weeks or a month before. A mass could then be felt just above the pubes, too broad and too irregular for the normal pregnant uterus. On vaginal examination, three irregular masses could be distinguished. The tumour increased rapidly in size, the individual masses undergoing perceptible increase. The patient was taken into the Hospital for a time in order that the case might be watched. Pregnancy went on until about the sixth month, when the patient was seized, on Christmas day, with an attack of apoplexy, from which she died a few hours later. In that case it was readily possible to gauge the enlargement of the fibroids, which takes place during pregnancy.

You must remember, as I have already remarked, that the fibroids are homologues of the uterus, and they participate in the uterine growth, which takes place during pregnancy. At the end of gestation an opposite change occurs in them; during puerperium, they participate in the involution of the uterus, and diminish in size. Fibroid tumours in the wall of the uterus are apt to interfere with normal involution, and secondary hæmorrhage frequently occurs within a few weeks after delivery. Moreover, after labour, sub-mucous fibroids are apt to become polypoid; the uterus is then in a lax condition, and the fibroid projects more and more into the cavity of the uterus, until it comes down as a polypus, and may even pass through the cervix. Some instances have been recorded in which fibroids have entirely disappeared after delivery, and this is what you might expect from the fact that the uterus will sometimes undergo super-involution; in like manner the fibroid may also undergo super-involution, and diminish in size to such an extent as to disappear.

But from the remarks which I have made, you will gather that, generally speaking, childbirth is a function not lightly to be undertaken by a patient in whom fibroids exist; that both pregnancy, labour, and puerpery, are under such circumstances attended with increased risk; and, finally, that the ultimate effect on the fibroid is in the direction of increased growth, with aggravation of the symptoms.

When, therefore, we are consulted, as sometimes happens, as to the question of marriage when a fibroid is known to exist, these risks should be borne in mind, and the opinion should be founded upon a careful and minute examination of the exact bearings of the growth, and of the dangers which it may entail, for it is a subject upon which it is impossible to speak dogmatically, and essentially one in which every case should be judged upon its own merits.

Last of all, I wish to say a word with regard to the change which occurs in the size of the fibroids at the menopause, whether it occurs in the natural course of events, or whether it be artificially induced by removal of the appendages during menstrual life. You saw to-day two patients at the menopause, both with fibroids of the uterus. In one of these cases I had previously introduced a ring pessary in order to keep the fibroid out of the pelvis. She was an unmarried woman, 49 years of age; for six months she had suffered from frequency of micturition and then retention, necessitating the frequent use of the catheter, which resulted in cystitis before she was sent here for further treatment. The periods still continued regularly, but were diminishing in quantity. When she first came under observation, in addition to two smaller masses, each the size of a hen's egg, situated to the right of the middle line, she had a large hard mass reaching to within three fingers' breadth of the navel. There was a manifest possibility of its becoming wedged into the pelvis, and I thought it advisable to try to prevent any such untoward occurrence taking place. The mass is now smaller, but has not yet diminished to such an extent as to render impaction impossible. In the other patient I have introduced a ring for the same reason. When I saw her last week the uterus was enlarged by an interstitial fibroid to such a size that it could be forced down into the pelvis by placing the hand on the abdomen, or even by a deep inspiration. She is 46 years of age, and has been under treatment on account of excessive loss at, and too frequent re-

currence of the periods during the last six months. Three months ago the intervals between the periods increased to seven weeks; she began to develop climacteric flushings and other indications of the change, and for the last few weeks after any special exertion the legs have become swollen and the veins enlarged.

You may remember also, a patient who has been attending here off and on for three or four years. She is now 45 years of age, and is unmarried. Ten years ago a polypus was removed in St. Thomas's Hospital. For a year before that she had almost constant loss, and was, in consequence, quite blanched. Subsequently the periods resumed their normal condition. Two days before she first came here, she had travelled from Devonshire. She experienced difficulty in passing water immediately after the journey; it became necessary to use the catheter. In addition to a fibroid polypus projecting into the vagina and to a slight interstitial enlargement, there was a sub-peritoneal polypus, the size of a tangerine orange, attached by a long pedicle to the uterus, and occupying the left posterior quarter of the pelvis. She was admitted to Prudhoe Ward, and the polypus projecting through the cervix was removed. Two years later she returned again with bladder trouble. For two months she had suffered pain towards the end of micturition, and a feeling as if she wanted to pass more urine. The uterus, which, before, could only just be felt above the pubes, had then increased to the size of a four months gestation, and the sub-peritoneal polypus had again taken up the same position in the pelvis. It was pushed up without difficulty, but returned again. A form of Hodge pessary, so modified as to give special support in the required direction was therefore inserted. Since then she has had no further trouble. Last week the pessary was taken out for twenty-four hours, but, as next day the mass had returned again and was causing discomfort, you may judge of the necessity for some such support.

Now, when you have a fibroid of just such a size that it will exactly fit into the pelvis, if the patient takes a long ride in an omnibus or a long walk, or undertakes anything which increases the intra-abdominal pressure, the mass may be forced into the pelvis. It then becomes congested, distended, and possibly fixed, so that it cannot return to its original position. In such a case pressure symptoms are specially liable to supervene.

Six weeks ago a patient came back to the out-

patient room with severe varicose veins on the leg—so severe that I sent her to one of my surgical colleagues with a view to special treatment. She had attended two years previously, before the menopause had commenced. She was then 46 years of age, and had had four children, the youngest being 13 years old. She had a fibroid (which she herself had noticed as a lump) in the anterior wall of the uterus, reaching half way up to the navel, and for some two months in addition to frequent micturition, had excessive loss; but this was kept in check with Ergot, and at the end of three months she was discharged, but with the proviso that if she got swelling of or pain shooting down the legs, or trouble with the bowels, or other pressure symptoms, she should come and see me again. She was warned that this might occur when the change had set in; and it had now taken place. On examination, I found that the uterus was much smaller in size than it previously had been, but that instead of being well up in the abdomen it was then impacted in the pelvis, and it was only with some difficulty that it was possible to free it. A ring pessary was then adjusted, and she was sent home. At the end of a fortnight the swelling and pain had entirely subsided. I mention this case because I have seen many instances in which fibroids have become impacted after the menopause. If the patient has a fibroid too large to fit into the pelvis there is always the greatest danger, that when the change comes it will diminish to such an extent that it may get into the pelvis, swell and become impacted.

The true nature of many of these cases is overlooked, and they are apt to be regarded as cases of malignant disease. One of the first cases that drew my attention to them was a case which, being regarded by her doctor as one of malignant disease, was set down as hopeless. And so it might have been unless relief had been afforded. I would counsel you, therefore, to bear in mind this possible danger in connection with fibroids after the change has taken place. In other respects they do not as a rule give rise to symptoms. But this danger is one not generally recognized, though very real. It can usually be guarded against by timely warning, and, when imminent, means should be taken to prevent it. If impaction has actually occurred, the obvious line of treatment consists in pushing up of the mass, and taking means to prevent its return until it has shrunk

to such a size that impaction is no longer possible.

It is not always easy to relieve these cases at once. Nor in cases of long standing, if dense adhesions have formed, is it always possible. Failing immediate relief, our object should be to diminish the congestion, and then to make a further attempt at replacement. In order to do so, it is advisable to keep the patient at rest in bed with the hips raised; to keep the bowels frequently relieved by salines, and to give Ergot. Then if, on examination, there is found any considerable difficulty in pushing the fibroid out of the pelvis, it is advisable to give an anæsthetic, under which replacement of the mass can be much more easily effected.

I have said nothing about the differential diagnosis of fibroids, as that would form the subject of a lecture in itself. And there are many other matters which I have not touched upon; but the points to which I wished specially to direct your attention are, to recapitulate:—the normal variation in the size of a fibroid, diminishing during the course of the periods, and increasing in the intervals; that, during pregnancy, they tend to increase in size as long as the pregnancy lasts; and, during puerpery, they tend to diminish in size, and in rare cases to disappear; that sub-mucous fibroids, after delivery, are apt to become polypoid; that at the menopause fibroids tend to diminish in bulk, and if of considerable size, there will, sooner or later, come a time when the danger will arise of their falling into the pelvis, and then become impacted.

For Sub-Acute Rheumatism. (*Med. News*):

R. Potassii Iodidi ... ʒiv
 Potassii Bitartrat. ... ʒj
 Liq. Potassii Citrat. ... ʒvj

M. Sig. Shake well, and take two teaspoonfuls three times a day in a quantity of water.

For Urticaria in Children. (*L'Union Méd.*):

R. Chloral. Hydrat. }
 Pulv. Camphor. } āā ʒj
 Pulv. Gummi. Arabic. }

Triturate to liquefaction, and add
 Cerat. Simplicis ... ʒj

M. Ft. unguent. To be applied topically.

CLINICAL NOTES.

(Specially reported for *The Clinical Journal*. Revised by the Author.)

WITH MR. TREVES IN THE WARDS OF THE LONDON HOSPITAL.

Remarks on a Case of Epithelioma of the Rectum: Its Diagnosis and Treatment.

This man, 62 years of age, comes here to-day and relates a clinical history of his trouble, which is very suggestive of a certain condition. He tells us that, with the exception of dysentery when in India during the Mutiny, he enjoyed good health until about a year ago. He then began to notice that he passed his motions with a certain amount of difficulty, which increased as time went on. The motions, moreover, were small and pipe-like. Some four months ago this condition changed to what he calls diarrhoea, and now he finds himself unable to control his sphincter ani. This condition is still present, and he is obliged to wear a towel in consequence.

I take this case to present an interesting clinical picture of stricture of the large bowel due to carcinoma, and I further conclude that it is situated in the rectum low down.

Patients with malignant stricture of the lower bowel often present these two symptoms—constipation, followed by what is termed “diarrhoea”—but the manifestations vary with the seat of the trouble. In stricture high up (say, in the sigmoid flexure) there is constipation due to the actual narrowing of the bowel, but the motions are not usually narrowed or pipe-like. The faecal matter having passed the stricture, fills up the ampulla of the rectum, and is often evacuated as a motion of normal size. The diarrhoea, which appears later, is due to catarrh of the colon above the stricture, induced by the long retained and chemically irritating faeces. The mucous discharge thus engendered and mixed with dissolved faecal matter constitutes the (spurious) diarrhoea. Now, when the stricture is quite low down—near the anus—there is constipation due to mechanical causes, and the motions are narrowed and pipe-like, owing to the constricted orifice. In due course the growth ulcerates and extends, the sphincter is impaired and is unable to act, and the patient then has a

condition he calls diarrhoea, but which we should term incontinence of faeces.

Without, therefore, examining this man's rectum, we may venture the surmise that he has an Epithelioma of his Rectum close to the anus, and that it has so far destroyed the sphincter as to render the anus patulous. And before we make this examination let us see if anything can be made out by inspection and palpation of the abdomen.

On inspection there is nothing very noticeable to be seen. There is no visible distension of the abdomen as a whole, though there is some slight distension of the ascending and transverse portions of the colon. The patient, you notice, is wasted.

On palpation, just internal to the left iliac spine, and just above Poupart's ligament, you can feel, on rolling the soft parts beneath your hand, a cord about the width of a man's thumb and about four inches in length. This is the empty sigmoid flexure, hypertrophied as to its muscular coats, because for months past it has been making persistent efforts to overcome the obstruction in front of it. You can compare it to the hypertrophy of the ventricle occurring as the result of aortic obstruction.

You should make yourselves familiar with the feeling of a contracted sigmoid flexure and colon. The condition of this part of the bowel also assures us that there is no actual obstruction of the intestine below it.

Before we make a digital examination of his rectum, I would call your attention to a point worthy to be noted before doing thus. Notice if the buttocks are drawn tightly together, needing some force to separate them; also note if the anus is tightly contracted up. If these two conditions are present, they are more than suggestive of fissure. Now that we come to examine this man we notice that the buttocks are not approximated, and you can see that if anything the anus is patulous. Now the most common condition in which the anus is found to be patulous is in carcinoma of the rectum.

On making a digital examination of the rectum, my finger immediately enters a ragged passage, the surrounding bowel wall feels irregular and nodulated; it is fixed; the mass is evidently ulcerating; I can move my finger readily, owing to the ulcerative destruction having enlarged the passage.

I therefore conclude that we have to deal with a case of Epithelioma of the Rectum; the patient's age and the history given pointed to the great probability of this, the examination now confirms it.

As to treatment, we shall keep the patient in the

Hospital, and consider if operative measures can be undertaken. I am doubtful, as there are many reasons why the case is unsuitable for operative treatment.

Supposing, however, one had seen this case in the early stages, much could have been done to relieve him. Excision may in the early stage have been possible; it is now probably impossible. Assuming that operation be considered inapplicable, much could be done to relieve the patient by general medical measures, and I may say that my experience has not taught me that a colotomy is the best resource of the surgeon in these cases. Indeed, I have come to believe that the operation is often performed without adequate reason and without benefit to the patient.

In that period which has the impossibility of excision behind it and the possibility of colotomy before it, I should proceed as follows.

I should order such a diet as will leave but little debris in the bowel. The meals must be taken at regular times, and it is well to give Pepsine in some form with the food to help digestion. You must ensure a regular action of the bowels, and the best habitual aperient for this purpose is probably *Cascara Sagrada*.

The rectum should be kept clean; it should be syringed out twice daily with an antiseptic solution. This cleanliness is a very important point. You frequently see here in the wards a case of epithelioma of the tongue. When first admitted not only the ulcerating surface but the whole mouth is foul and dirty, and active with the irritants of decomposition. Such a patient is given a mouth-wash, and is instructed to clean his teeth, and in a few days the parts look different; they are clean and sweet. The same may be presumed to occur in Epithelioma of the Rectum.

When possible, a bougie should be passed once a week. This is not always possible; but when it can be done it does much to relieve the patient, and ward off the troubles of obstruction.

For the pain, suppositories are useful. I order at first suppositories containing Cocaine; when these cease to be effectual, I order some containing Hyoscyamine; when these fail, I order some containing Opium and Belladonna; and when these no longer act, I order Morphia suppositories. I adopt this routine so as to delay the use of Morphia as much as possible.

That such a course of treatment is beneficial I have ample clinical evidence. I have at present

under observation a man who holds an important public position, suffering from this trouble. He came to me three years ago with a view to ascertaining if inguinal colotomy was advisable. I discountenanced this, and put him on a treatment similar to what I have sketched out; and by following this, he has certainly had the minimum of discomfort, although it is true that he has now reached the stage of Morphia suppositories. All the time he has continued to perform the duties of his office.

There is one drug I will mention, though with some diffidence; that is Chian Turpentine. Owing to the manner in which it was introduced to the profession, and also to the haphazard manner in which it was first tried, it has little scientific hold in rational treatment. I have, however, certainly seen now and then apparent improvement under its use, and it has seemed to me that in a few cases it has hindered growth, and has at the same time kept the parts soft and pliable. I am not alone in thinking this; and there are quite sufficient cases on record to make the question worth re-considering. The evidence is not complete which would condemn the drug as useless.

The patient's condition may be maintained by cod liver oil and by Flitwick or Levico water, and by guarding against loss of body heat and against the drain of needless exertion. A course of Iodide of Potassium will now and then prove of service in cleaning and softening the growth, and where a very careful system of dieting has been observed, I have known cases in which a marked wasting has ceased and some weight has been regained.

If this care be taken arguments will be denied to those who urge in every case and without logical premises the universal adoption of "early Colotomy."

Varicose Veins—question of operation.

This man, æt. 40, has been sent here to see if I would advise the varicose veins you can all see on his left leg, to be treated by operation. I should say that the case is one absolutely unsuitable for operation. If you feel the internal saphenous vein, you will find that it is entirely blocked by thrombus, and there are signs of inflammation around the vessel. As a consequence of this blockage a quantity of blood, usually conveyed by this channel, has now to be conveyed by these other superficial veins. Suppose I were to excise two or three more veins, I should aggravate his

trouble by still further diminishing the channels for the return of the venous blood. He is a policeman, and is on his feet for about eleven hours a day. His occupation was doubtless the *exciting cause* of the trouble; but neither standing, constipation, tight garters, nor any other of the numerous "causes" described, should be regarded as more than the *exciting causes*; and the primary cause and real pathological basis of varicose veins is a congenital condition of those vessels.

The man, moreover, is very stout, and not in such a condition of health as to render any operation a matter of small moment.

A Case of Knee-joint Disease affecting the Synovial Membrane.

This boy, æt. 16, illustrates well the form of chronic tuberculous joint disease, commencing in the synovial membrane. His history is instructive. He tells us that his right knee has been "bad" for about eighteen months. That the *first symptom* noticed was *swelling of the joint*; later on he experienced difficulty in moving the joint; there has been but little pain; no starting pains at night; no aching at night, and but slight inconvenience when he bears his whole weight upon the affected leg. This is the clinical evidence to be noted in cases in which the joint disease is limited at first to the synovial membrane.

If you examine the joint, you will notice that the part seems hotter than usual; the bone is apparently normal; there is a fair amount of effusion; the synovial membrane is thickened, leading to a feeling as though there were something between the skin and the intra-synovial fluid, and causing the bony outlines to be somewhat ill-defined and difficult to make out.

The result of the examination is to confirm the clinical evidence, and we can say that the case is one of tuberculous disease of the synovial membrane of the knee-joint.

You will see the importance of noting how to diagnose a case of joint disease commencing in the synovial membrane from that commencing in the bone when the question of prognosis is concerned. I will sketch out the clinical history of a case where the joint disease commenced in the bone. The first symptom that a patient would complain of under this condition would probably be pain in the joint, which had existed for some time; it would be worse at night, and would be aggravated by pres-

sure. The patient would complain that he cannot put his foot to the ground; that is to say, he would avoid by instinct that which would cause the two bony surfaces to be pressed together. Later on the inflammation spreads to the synovial membrane, and an effusion takes place, and there is swelling. Speaking very generally, therefore, in the case of synovial disease, swelling is the first symptom, while pain comes later. In the bone case the pain is the first symptom noticed, and a swelling the later sign.

The difference in the two classes of case in the matter of prognosis need not be insisted upon.

As to the importance of recognising this difference from the point of view of operative treatment. When limited to the synovial membrane, arthrectomy may reasonably, at a later period, when other measures have failed, be expected to do all that is necessary; when it has begun in the bone the results are more serious than in the other case, and the condition cannot be so satisfactorily dealt with by this measure.

In this boy, however, the condition is not sufficiently urgent to indicate operative interference, and he will be ordered to wear a Thomas' splint, to live well, and to get plenty of fresh air. In due course the bone may become involved, but it will be involved from the surface, and arthrectomy may lead to a good result. Such a result is not so certainly to be expected when the disease has commenced in the cancellous end of the femur or tibia, and has made its way into the joint by a process of destructive tuberculous inflammation.

Prognosis in Syphilitic Perichondritis.

This patient, a porter, aged thirty, has an abscess over the right costal margin as the result of Syphilitic Perichondritis. The case is of interest from two points of view. In the first place, as regards the history given by the patient; he states that whilst suffering from a cold a few weeks ago he noticed a pricking, catching pain on the right side in the neighbourhood of the swelling, which led him to think he had pleurisy. This is a common history in this condition. I believe the trouble often begins on the pleural side of the cartilage. I know that the pus often is found to extend to a great depth, and I have found it spreading towards the spine between the cartilage and rib and the pleura. In such a case the undermined rib has had to be removed to an extent equal to that of the

suppurating tract. In the second place, as regards the prognosis. Imagine that you see such a case in practice; you diagnose the abscess without much difficulty; the fluctuation denotes fluid, and the thickened margin suggests that that fluid is pus, the part is tender and hot, and the skin is red. There is a slight degree of cedema. Having diagnosed it to be an abscess, you surmise it must be due to syphilis or tubercle. The man had syphilis nine years ago; there is nothing suggestive of tubercle; and there has been no injury; you therefore can complete your diagnosis by assuming that it is due to syphilis. The treatment is obviously to incise and let out the pus. But do not regard it as at all probable that all will be well in two or three weeks. I know few troubles in connection with bone or cartilage disease more persistent than this. You open the abscess and let out the pus. You perhaps scrape the cavity, and possibly some dead cartilage is removed. You think he will be well in a few weeks, but to your annoyance and the vexation of the patient a sinus forms and will not close. It has to be opened up again, and more dead cartilage removed; and so the case continues perhaps for many months or even years, before the sinus finally closes.

In one case of the kind I opened the abscess, which was deep, and expected an early healing under Iodide of Potassium. Three years have, however, gone by, and the trouble is still there, and in the meantime (by some four operations) I have removed five costal cartilages and not a little of the sternum.

A Case of Intestinal Dyspepsia.

This man, 45 years of age, a postman by occupation, comes here to-day and tells us that he has suffered from occasional pain in the abdomen for some four or five years. During this time he has been subject to flatulence and constipation, and latterly piles have developed. *He has no teeth.* There is nothing abnormal to be seen or felt in the abdomen, which is quite flat. The man is thin. On being asked about the seat of the pain, he refers it to the lower part of the superior mesenteric plexus. It seems to be of a somewhat vague character, and might be described as a dull wearing pain; it is temporarily relieved by food, recurring about three hours later, and is sometimes accompanied by nausea. His tongue is large and flabby, and he states that he has become irritable and subject to fits of depression. Aperients have

but little effect on him, and apparently make him worse. He has no gastric dyspepsia. The pain is not that of colic, but is a dull wearing pain which lasts many hours. He feels empty and yet is afraid to eat, and his constant feeling is that if he could "pass something" the pain would go. The occurrence of the pain at one spot leads him to think he has a tumour there. The belly does not become distended. The pain is relieved by rubbing and pressure, but not to any great degree. He has to be careful in his diet, and now that he has limited himself for two weeks to fluid food his pain is better.

His history is interesting as it depicts characteristically the condition of intestinal dyspepsia. It is well to familiarise yourselves with it, and so be able in the future to recognize it, instead of suspecting some mysterious abdominal complaint. No matter how many cases you see, each one will give you a history very nearly the same as in this case.

As to treatment, I shall first assure him that he is not a victim of any abdominal tumour. As he has no teeth, and cannot in consequence properly masticate his food, he must provide himself with false ones. The mincing machine is certainly not so useful as false teeth. With the latter the patient not only masticates his food, but at the same time mixes it duly with saliva and so obtains the proper use of one of the natural aids to digestion. His diet must be simple and well regulated, and one which will leave but little debris; and he must be regular in the time of his meals. He must rest after his meals. The most useful drugs will probably be Ipecacuanha and Rhubarb with some saline. The bowels are best kept open by enemata.

A Case in which the Sigmoid Flexure was removed for Malignant Stricture.

I removed from this woman a large part of the sigmoid flexure. The stricture was so tight that it would only admit a No. 12 catheter. It was malignant. I cut away the diseased segment, and effected an immediate union by means of a double row of sutures. The abdominal cavity was at once closed. The bowels did not act for forty-eight hours after the operation; they then commenced to do so, and seventeen motions were passed in the next five days. Amongst the fæces twenty-eight cherry stones were passed. The patient is now up, and to-morrow will be going home. She has already gained flesh considerably.

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WEDNESDAY, FEBRUARY 8, 1893.

A CLINICAL LECTURE

ON A

CASE OF PERIPHERAL NEURITIS, WITH AFFECTION OF JOINTS.

Delivered at St. Thomas's Hospital,
By **W. M. ORD, M.D., F.R.C.P.,**
Physician to the Hospital.

GENTLEMEN,—I want to give you a short clinical lecture to-day on some of the relations of chronic osteo-arthritis; and to start with I will ask you to come round and look at the case behind me, which is one of peripheral neuritis in a woman aged 61. There have been the usual signs of peripheral neuritis—loss of power in both upper and lower extremities, more marked in the extensors than in the flexors, with tenderness of muscles on pressure; there has been marked wasting of the muscles; there has been loss of knee-jerk and of the corresponding jerks in the upper extremities, with the characteristic electrical reactions. But there has been no affection of the cerebrum, no sign of any aberration or impairment of intellect. The cause of the peripheral neuritis does not appear very clearly. It does not appear to be due to alcohol or lead, or to have followed any acute disease like fever; there is, in fact, no sign of poisoning or feverish excitation. I cannot, indeed, say what is the real cause of the neuritis in this case.

Now, what I first wish to draw your attention to is a curious change which the joints in both extremities, but more particularly in the upper, have undergone since the symptoms of the neuritis were established. I may say that the changes in the joints, which I am about to demonstrate to you, have appeared *since* she has been under treatment in the hospital.

Now observe this right hand. You will see, though the hand generally is wasted, the articulations are larger than they should be; it is not merely, as you might think, that the wasting of the other parts has made these parts appear larger; but they are themselves obviously thickened and knotted. You also notice that the hand is changed in form, the fingers deviate from their proper line toward the ulnar side of the hand; the thumb is also,

while prominent, to a certain degree diverted by the excessive action of the flexor.

You have partly to recognize the influence of the osteo-arthritis, and partly the wasting of the tissues which makes the flexors overcome the extensors; the lesion that determines this change in the form of the joint is therefore a complex one: wasting of tissue within the joint, formation of new tissue in the circum-articular parts of the bones. Within the joints the cartilage becomes softened and swollen, and presently wears away, leaving the bone beneath bare. The bone after a time takes on the condition of eburnation, the synovial membrane becomes thickened and softened, and yields; so that in two ways the joint cavity becomes larger than it should, and tends to allow the opposed surfaces of the two bones entering into the composition of any joint to be more loosely opposed to one another than is natural. Here one can find evidence of this looseness of articulation, and as one moves the joint about, one can feel that the roughened surfaces grate against one another. Then outside the proper articular surface all round the rim there is an out-growth of a chronic inflammatory kind, leading to the formation of a quasi-osseous structure, broadening the articulation, on both aspects.

A result of the loosening of the apposition of the two joint surfaces is that there is always more or less tendency to dislocation of the joint. The joint in any case is always affected in a definite way, that the distal bone is displaced toward the flexor aspect, and tends to fall beneath the distal end of the bone immediately above it. Thus the proximal end of the first phalanx would tend to fall towards the flexor end of the lower end of the metacarpal bone. You may see this, perhaps, better in a knee joint than anywhere else, where the structure is on a larger scale; but you can see it here also, and you can also note the deviation to the ulnar side as a sign of this tendency to dislocation. In this case the tendency would be again increased by the excessive loss of power of the extensors as compared with the flexors, but you see it distinctly in all cases of chronic osteo-arthritis.

As I have said before, this change in the joints has come under our observation since the patient came into hospital with signs of peripheral neuritis.

You will observe that this change in the joints is associated with very marked wasting of muscles which preceded the change in the joints—was not due to the change in the joints. Of course, we know that a severe chronic affection of the joints will produce wasting of muscles from want of use, but here the wasting preceded the change in the joints. We note then these two things: change in the joints and wasting of the muscles preceding it.

I will now draw your attention to a third condition. If you look at the phalanges you will see that the second and third phalanges are very much shrunken, and that the skin is shiny, has lost the little furrows and ridges which run over the surface of the ends of the digits, and has become smooth and "glossy," as it is called. This change has now been for a long time recognised as an effect of disturbance of nutrition, due to nerve influence. The loss in substance of muscles is another atrophy; the affection of the joint is partly an atrophy, partly an over-growth around the margin of the joint—probably the word dystrophy would best correspond to the condition we get here, as pointing rather to a disorder in nutrition than a cessation of it. There can be no doubt that we can absolutely refer the three changes here presented to alterations in the nutrition of the hands determined by the neuritis—a direct influence of inflamed and altered nerves, upon the nutrition of the part supplied by them. In that case, we must here clearly recognise that a dystrophy of joints may be produced by the direct influence of the nervous system, by the arrested or disordered power of nerves which are in a state of inflammation.

Possibly some of you may have seen two cases I had in hospital a little while ago. One, a young man, had a chronic cervical pachymeningitis. He had at first palsy and numbness of the hands, and long after, a change in the hands and skin, similar to those in this case. He had inflammation of the dura mater compressing nerve-roots, and with exactly the same result as in this case. Thirdly, we may have a direct nervous influence of this kind produced either in arms or legs, or both, by disease in the grey matter of the cord. In several cases of progressive muscular atrophy I have seen joint-affection like this occurring at some period later than the commencement of the wasting of the muscles. At the same time that this young man was in the wards, there was in the next bed to him an old man. He had great loss of power and wasting in the muscles of the upper extremities, which had

been going on for some years. The story that he gave was that about twenty years before he came under my observation, he had been "lunging" a young and very spirited horse. After going on for about an hour and a half, the man found that his arms fell helpless to his side, and remained helpless for some time. Although he regained power for the moment, he from that time gradually experienced more and more loss of power, and presently noticed the wasting in the muscles of the upper extremities, which was present in all of these, and in the neck. He had also marked osteo-arthritis, which had not appeared until a year or two before he came to hospital. He had not "glossy" skin, but he had a very curious condition of skin of the hand which very readily blistered, whenever he put the joints into any active exercise. He had great difficulty in sitting up in bed, and whenever he made an effort to sit up, he would put his hands on the bed to help him up, and had, in consequence, almost constantly a bulla form on the knuckles. He had originally received a sort of injury to the cells of the cervical region of the cord, and this was followed by wasting of the muscles, and subsequently dystrophy of the joints and skin.

Now, next, it is my belief, founded on a good deal of observation, that what you can see in such a case as this produced by direct nerve influence in joints, may also be produced in a reflex way; that is to say, irritations in various organs of the body may be conveyed to the spinal cord and reflected to the joints. I have noticed this, in the first place, very much in women in whom I have found evidences of a strong tendency to reflex affections from uterine and ovarian irritations—particularly uterine—to the joints. Heberden many years ago published a number of cases of what he called "nodosity" of the joints occurring in women. I have also had occasion to notice nodosities of the joints—in other words, chronic osteo-arthritis—in women approaching the climacteric period of life, who were the subject of more or less menorrhagia, dysmenorrhœa, or the two together. It has been in my experience a very common thing to find in women a chronic osteo-arthritis existing more or less constantly, but undergoing inflammatory exacerbations in relation to the menstrual period. It may occur in young women occasionally, but much more commonly in middle-aged women towards the climacteric period—that is to say, from 40 to 50 years of age. I have seen a good many women

who have suffered for years and years with chronic osteo-arthritis aggravated into a sub-acute condition with the menstrual period. Only about six weeks ago a lady came to me who is now about 63. I first saw her when she was 48. At that time she had a great deal of chronic osteo-arthritis going on in the hands and feet, more particularly in the hand, with a certain amount of bony rim round the metacarpal joints, and also a certain amount of very tender and painful fibroid thickening and inflammation, and bony deformity. All this was greatly aggravated at the menstrual period, the loss at the time of the menses being very great. When this lady last came to me, she said: "I have not come to see you about the old history. You promised me that though I should never lose the bony deformity, I should lose the inflammation and pain—and this has come true." She had come to me for a totally different matter. I have known several people whose lives are made miserable by recurrent attacks of violent inflammation of the upper extremities occurring in relation to the menstrual periods—some in whom the pain will begin to come on six to ten days before the menses, and last an equal time beyond it, so that they are scarcely ever free from pain. In all these cases profuse menstruation occurs, and it is very difficult to avoid the belief that hyperæmia of the uterus is the determining cause through reflex action.

Again, it may be said that some kind of reflex irritation affecting joints may be observed in men. How far gonorrhœal rheumatism has this mode of proceeding is, of course, doubtful; it may be very fairly argued that it is due to a distinct septic poisoning, and that this falls on the joints just as pyæmia or septicæmia does. But there are certain people who suffer from inflammation of the urethra and the prostate which is not of a septic origin. Several very good authors have recorded cases in which urethritis and prostatitis have occurred in people as a result of gout, without any possibility, apparently, of any septic or venereal affection; and I have seen more than one case in which people having prostatic irritation determined by the sexual passion, have had affections in the joints—the affections in men rather involving the larger joints, such as knees and ankles, than hands and feet. I saw very recently a man whose case illustrates this very well; he is a gentleman who had stricture for many years, and who in connection with this stricture gets rather sharp attacks of cystitis—provoked, I think, by over use of a

catheter. At all events, he gets these attacks of cystitis. He suffers from very large swelling of osteo-arthritis in the knee-joint; both are partially dislocated, so that the axis of the tibia, when he is trying to stand upright, instead of corresponding with the axis of the femur, is at a marked angle, and would strike the femur about a quarter of the way down from the lower part to the upper. The tibia is drawn clean behind the femur, and tends to be dislocated behind it. When he first came to me, after treating him in various ways, he got a great deal better, and both legs were straighter. But this autumn he came back to me exceedingly ill. He had taken his autumn holidays at a cold place on the Yorkshire coast, exposed to bitter easterly winds, and had contracted a sharp cystitis. Again the joints became immediately very much inflamed, and he was again completely crippled. He came to me as soon after as he could manage, and then I found that he was passing urine loaded with mucus and containing a little blood, that he had considerable dysuria and tenderness about his prostate, and the joints most painfully swollen. He had been advised by some one to pass a catheter daily, This I stopped, and gave him benzoate of ammonia, regulated his bowels, and kept him quiet, and in a month he has become fairly well; directly the cystitis and prostatitis were arrested, the active process in the joints ceased. Thus, in thinking of the clinical relation of chronic osteo-arthritis we have accepted now two kinds of nervous causes—the direct and the reflex.

Thirdly, we come to another group—traumatic causes, which may consist in a direct injury to a joint, or such as has been caused by a blow or a wound, or an injury to a bone in the neighbourhood of the joint, not affecting the joint apparently directly, but in a reflex way; or such injury as consists in persistent over-strain of a joint—a very common way indeed. Go into the country and look at the labourers when they have reached 60 or 70 years, or go into the laundries and look at the old washerwomen with their joints contorted in all possible ways, with chronic osteo-arthritis, with changes in synovial membranes and changes in muscles, furnishing examples of chronic trauma produced by persistent over-work and over-strain. Further, in looking over cases where a chronic osteo-arthritis follows a sudden injury or a prolonged over-strain, one can never fail to recognise the great importance of another element than the

traumatic—and that is the element of defective nutrition. Such deformity occurs in people who have had to work hard or use their joints very much, and who are also imperfectly nourished. The tendency to joint affection in many women means this, a long course of over-work combined with imperfect nourishment; imperfect nourishment means, of course, a weakening of the whole system, especially of the central nervous system, so that women who are bleeding freely with over-menstruation become over-sensitive, and exposed to inflammation on any local incitation; and so these people have not merely the local injury to account for the local disease, but have also the state of the nervous system added. These, then, are complicated conditions. The local affection is one thing, and the general condition—the condition of the whole system—is another. There is an interesting observation of no infrequent occurrence to the effect that in many cases a sharp momentary injury of one joint will presently, in people who are weakened or enfeebled, tend to set up a corresponding arthritis in the joint symmetrically placed on the other side of the body. Here, I think, we can hardly throw out the influence of the nervous system.

Then, again, we have to note that chronic osteo-arthritis may, in a certain number of cases, follow an attack of acute rheumatism. This is one of the causes of osteo-arthritis which we must not put out of sight. Very fairly that might be called, in one sense, a chronic rheumatism. So of the change in joints which occurs in true gout with deposit of urate of soda. There the same changes—*independent of the deposit of urate of soda*—take place which we see in chronic osteo-arthritis.

And this raises an important question. Just as there is a definite proclivity in the constitution of some people to have gout, I think there can be no doubt that there is also a tendency in some people to have chronic osteo-arthritis. It is a thing which has some heredity. Let me quote a case. I saw, about three years ago, a lady between 60 and 70, who came to me with very severe chronic osteo-arthritis, with exacerbations; I could not put this down to the influence of the climacteric, which had, of course, long passed, but she had a uterine fibrous tumour which had not receded after the climacteric, and was subject to attacks of painful irritation. I have since seen three of her daughters. One of them has also a uterine fibroid, and has a great number of nerve symptoms related

with it, but no considerable affection of the joints; another has very severe chronic osteo-arthritis in association with severe dysmenorrhœa; and the third has the same conditions, though *less severely*. One cannot resist the idea that there is a distinct inheritance from the mother of a tendency to joint affection; whether there is a tendency to the inheritance of fibroid tumour must remain in doubt; but I feel pretty certain that there does exist in families a marked tendency to the handing down of acute and chronic joint affections, which tend to develop under very little provocation.

In conclusion, I should like to say a word or two about the treatment. When you get the direct affections, we know that very little can be done for progressive muscular atrophy, and very little for the joint trouble associated with it; but for neuritis or chronic pachymeningitis much can be done. Treatment by iodide of potassium and the current form of electricity will be found greatly beneficial, and we can also do much good by sponging the back with hot water or salt and water for ten minutes once or twice a day.

The young man with pachymeningitis of whom I have spoken, was given good food, and treated with applications of the galvanic current to nerve and muscle. He left the hospital, and eventually came back to say he was improved, and had taken a place as footman to a club, and was able to do his work perfectly well, except that he would drop plates, etc., at inopportune moments. His joints remained deformed, but were no longer painful and tender. He returned to the hospital for a while to have his cure completed, and afterwards secured a place as valet.

Where we have the reflex troubles in women it is wise to consult the obstetric physician in most cases, but supposing it to be a matter of climacteric, we really have to wait. Nothing can arrest the climacteric, and I think very little can be done in these cases to arrest the intense and active hyperæmia: but there are remedies which may often be of great value, such as bromide of potassium, bromide of ammonium, hot sponging on the lower back, saline aperients. In some cases we may use with great advantage ergot with indian hemp: 20 drops of the tincture of ergot with 20 drops of tincture of indian hemp with water. Indian hemp, however, is a drug of very uncertain value, and in using it you should go to the very best chemists in London. I think as a rule, it is well to begin with only about 10 drops of the

tincture. If you combine ergot with other drugs, it certainly appears to me to increase the activity of their influence; and people who have taken 20 drops of tincture of indian hemp without risk, if they take it with ergot are apt to get delirium. I once gave 20 drops of the tincture with ergot to a lady with a large fibroid tumour of the uterus, and two hours after I was sent for, and found that she had delirium. It is, therefore, best to give no larger dose at first than 10 drops or $\frac{1}{4}$ grain in the form of extract. If there is very much impairment of the nutrition, if the patient is anæmic, a large number use iron.

When the nerves are the seat of the greatest affection, some hypophosphite, or bromide, or arsenic should be used; if there is mucous irritation, iodide of potassium; if great weakness, cod liver oil or any sort of tonic may be used. Where you have the acute attacks coming on, particularly in the women of whom I have spoken, nothing will be found to be better than 15 to 20 grains of bromide of ammonium, and 15 to 20 grains of salicylate of soda. I do not think that in any case colchicum is suitable, or much use of morphia, or of any form of opium, or the various drugs used for the relief of neuralgic pain.

A CLINICAL LECTURE

ON

TWENTY-FIVE CONSECUTIVE CASES OF EXCISION AND ARTHRECTOMY OF THE KNEE. With Hot Water Flushing.

Delivered at University College Hospital,
January 10th, 1893,

By ARTHUR E. BARKER, F.R.C.S.,

Professor of Clinical Surgery at University College, and
Surgeon to University College Hospital.

GENTLEMEN,—Having lately been engaged in reading over the Hospital Notes of those cases of disease of the knee (with one exception all tubercular) in which during the last few years it has fallen to my lot to perform either so-called arthrectomy, or, the more formal classical excision, and, having learned much from this review, it has

occurred to me that a short sketch of the facts relating to the series may be both useful and interesting to you, especially as seven of the cases have been operated on before you within the past year (1892).

The series in question includes, as you see, 25 consecutive cases. In almost all of these the destructive tubercular process was well advanced, and, in many, very much so indeed.

In speaking of tubercular disease, I need not remind you as to the nature of the *materies morbi* and its effects on the tissues. Even the more junior pathologists among you are now, I feel sure, familiar with the appearance of the *bacillus tuberculosis*, with much of its life history, and with many of the histological changes it produces. But to some of the grosser initial lesions produced in the tissues by its ravages, I must here and there refer. There can be no doubt that we are daily correcting our impressions as to the latter in a way quite impossible a few years ago. Relieved of the nightmare of septic infection, we now open joints for exploration and for treatment without misgiving, and, consequently, are encouraged to interfere by operation at an earlier stage of the disease than was formerly thought justifiable. And all this without for one moment losing sight of the fact that the great majority of tubercular knees could, if seen early enough, be cured by rest and other appropriate treatment.

Not so many years ago an excision of the knee was not undertaken until there was evidence that the joint was hopelessly disorganized, and where a little more delay would mean amputation, and until the risks of the serious operation were outweighed by the greater risks to limb and life by waiting. At the present day there is little question of risk to life and limb in this class of operation in the hands of those who aim *seriously* at perfect asepsis: we are left, therefore, free to consider the function of the limb and the general well-being of the patient almost exclusively. And in most operations now-a-days we have an opportunity of studying the state of the tissues before the whole joint has been converted into a bag of caseating material, and has been perhaps riddled besides by sinuses, and thus further damaged by the action of putrefactive organisms entering from without. Indeed, it is now considered a reproach to a surgeon if he allow a sinus to form in connection with tubercular knee-joint disease. Now, therefore, when rest and attention to general and local treatment have been con-

scientiously tried *and have failed to arrest the disease*, and *it is manifestly on the increase*, we open and examine these joints with a view to saving, if possible, some part of their functions and of ridding the patient of a quantity of morbid material capable not only of inducing widespread local destruction of the joint, but of infecting the system generally. And in so doing we have often an opportunity of studying the various comparatively early stages of tubercular disease in the several tissues of the joints before the whole is reduced to the chaos of complete disorganisation, tubercular or septic, as used formerly to be the case before excision was considered justifiable. The gain to pathology has therefore been very great. We have learned in this way much that it was impossible to learn formerly, and we have corrected earlier impressions. We are, therefore, better able now than then to determine *what are the limits of the disease* and *what tissues may be left untouched*, and *what ought to be carefully removed*. Then comparing what we find in our operations with facts noted beforehand, we can form a better estimate than hitherto of the prospects of recovery *without operation* in any given case.

Now, if there is one thing more than another which is to be deduced from a close study of any series of such cases, it is the need of treatment of tubercular disease of the knee in its earliest stages by perfect immobilisation, together with good food, light and air, *if we are to prevent disorganisation to an extent demanding operation*. Unless we are able to command these forms of treatment operations are almost certain ultimately to be required. But if immobilisation is early enough and long enough applied, and is backed up by proper general treatment it will, in a large proportion of cases, arrest the course of the disease, and leave a fairly sound and useful limb.

But we have also learned that if the disease has once gained a hold of the joint, and has advanced to the degenerative stage of the tubercle, it is exceedingly difficult, indeed well nigh impossible, in the average case among the poor, to arrest it before it has seriously interfered with the functions of the articulation.

Now, if the latter proposition be true, and a knee-joint with degenerative, necrotic change in synovialis or bone, or both, is equivalent, at all events among the less favoured classes, to a knee-joint almost certainly doomed to stiffness, the question arises why should we in such a case sub-

ject our patients to months or years of treatment by splint, etc., only to secure a stiff joint in the end, when an operation involving very little risk to limb or life will eradicate the disease, and give in the course of two months or so a sound, if stiff joint, without dangerous sinuses. I have more than once felt humiliated by some of these cases, when after (as in one instance eight) years of treatment which only resulted in a stiff, swollen, and painful knee quite impossible to use, I have found on performing arthrectomy at the patient's request, that these years had been thrown away, and that there were large tubercular sequestra and caseating foci in the joint which no amount of patient treatment could have cured without operation. And when I have seen such a patient walking about in eight weeks after operation on a perfectly firm and painless limb, with a sound scar, I have asked myself, why waste so much time in future cases like this? If the joint is to be stiff in either case, why not remove the disease and let it stiffen *soundly* in a couple of *months*, instead of subjecting the patient to as many or perhaps double the number of *years* of irksome treatment for no better result, even if no operation is necessary in the end?

It may be objected that there is a great risk both to limb and life in such extensive operations as excisions and complete arthrectomies of the knee. Gentlemen, there are risks in all surgical operations, great and small. But if it be shown that the risks of these upon the knee are no greater than of many of the operations which are daily done without a moment's hesitation, that objection falls to the ground at once if we are to be consistent.

As to this question of danger, one must speak cautiously and with a due sense of responsibility. But I am bound to give you my own experience. It is this. Out of a large number of excisions of the knee and, indeed, of the hip also, I have had no fatalities so far, I am thankful to say, and I have never been obliged to amputate a limb after such excisions. I have no doubt that other modern surgeons could say the same.

Many dangers, of course, surround such a large operation, but we have learned by care to avoid them and to reduce the risks almost to vanishing point. Now that we can obtain union of these extensive wounds by first intention without a drop of pus and without even any drainage, the dangers must be few.

As to the functions of the limb, very little need be said. If, as in the present series, only two or three adults had portions of the ends of the bones sawn off, only these showed any shortening. I have never completely excised the ends of the bones of the knee in a young child, and consequently have seen little or no shortening in them. With regard to the functions of flexion and extension, I have never yet operated on the knee as others have done at *such an early stage of the disease* as to justify the hope of preserving these movements. All the cases, therefore, have had stiff joints. But they have all had useful limbs and walked firmly, except two or three so recently operated on as to require further time and observation before pronouncing upon the result.

The position of the limbs has next to be considered. You must have observed that in all cases I have aimed at putting up the joint in *slight flexion*. The object of this is to lead the patient to tread upon the front part of the foot, instead of the heel, which he is prone to do if the limb is absolutely straight. His gait is thus far more natural than with a perfectly straight leg. I have no reason to discontinue this practice, all the patients who have finished convalescence walking well and firmly. But if you wish to avoid disappointment in these cases you must remember two things. 1st. That in adults, after removal of the encrusting cartilage of the femur and tibia, either by formal excision or more partially in the course of an arthrectomy bony ankylosis is almost the rule. 2nd. That in children the ends of the femur and tibia having very little osseous tissue, bony union is not to be expected. It is, therefore, necessary to treat the two classes of cases quite differently. In an adult, where, at the end of an operation, bone touches bone, there will be very firm union in a couple of months, and most likely bony ankylosis. In such a case supports of all kinds, at the end of a couple of months or so, can usually be dispensed with without any risk of subsequent flexion. In young children it is quite otherwise. Here, after removal of encrusting cartilage in whole or in part, we have more or less of the cartilages of the epiphyses to deal with, and these will not produce more than fibrous union for a long time. If, in such a case, supports are not kept up for some years, the limb, which for a couple of months after the operation was as straight as could be desired, will be found gradually to become flexed as the fibrous bond between

the bone yields to the child's instinctive desire to have the limb a little bent in bed and sitting down, and to the greater mechanical advantage of the flexors over the extensors. I very early recognised these facts, and have consequently always kept my patients under observation for years where necessary. For this reason I can fairly say that though I have observed a *tendency* to flex where these children have been neglected after operation, I have never failed to keep them as straight as I wanted by splints. In two or three cases splints have been removed by the parents or others, under the impression that as the child was running about they were unnecessary. The consequence has been a slight tendency to flex which is always easy to correct when seen soon enough. I cannot say that in any of this series it has been at all difficult to secure a proper position of the knee, but you must start with the rooted determination to immobilise the joint for some years after operation in such a way that the patient can walk and run about as much as he desires without flexing it.

I find the best appliance for this purpose to be the ordinary plaster of Paris case, which is changed every two or three months. If carried *well up to the fold of the natus* and down to the ankle, it prevents all movement at the knee without interfering with exercise. In private, with intelligent people I have used light leather splints, but even here, if the patient is a child growing rapidly, I prefer the plaster. It has the great merit that it cannot be removed, without much trouble, by patient or friends, and it is perhaps more easily fitted than anything else.

To show you the class of cases dealt with, I shall now subject the series of 25 cases to a short analysis.

In the first place, as to age, I find that eight were children under 10 years, seven were operated on between 10 and 20, seven between 20 and 30, two between 30 and 40, and one between 40 and 50. Thus nearly two thirds of the whole group were over 10 years of age. Those below 10 were cases which, in spite of as careful treatment as we could command for this class of patient, the joints were steadily growing worse and showing evidence of marked disorganisation. I am, as you know, very averse to operating upon the knee in very young children if this can possibly be avoided. Hence, perhaps, one of the reasons for the small proportion of little patients in the list, although for some years much of my surgical material was

drawn from the children's ward. And as to formal excision of the knee, I am glad to say that I have only once performed it on a patient under 21 years of age, *i.e.*, on a girl of 15, for great displacement, due to old bygone disease, so that if there should ultimately be any shortening it has not been due to interference with the epiphyses. And I should like here to add a remark that you have often heard me make, namely, that I have never opened a knee joint yet, whether in child or adult, without finding more disease than I expected, and, indeed, in most cases have been startled at the great excess of what has been found over what has been forecast.

At the other end of the list you may notice a patient aged 42. This would have formerly been regarded as suspiciously near the limit at which excision of the knee ought to be attempted. But I venture to assert that the conclusions drawn from experience upon this point, before aseptic surgery became the rule, ought not to regulate our practice at the present day. If a joint is excised now, and closed in a perfectly aseptic condition, so that the whole wound heals without any suppuration, the condition of things produced in that joint is practically the same as after a simple fracture or an aseptic osteotomy. And we certainly expect ninety-nine out of a hundred cases of simple fracture to unite without trouble, whether they are below the age of 40 or above it. And to judge by this case in my list which was operated on at the age of 42, the limit of age was by no means reached. Here the knee was totally disorganised, and I had to remove every bit of the synovialis, and all cartilage not already destroyed, as well as a large tubercular sequestrum from the tibia, leaving a hole the size of a walnut in the latter, and yet at the end of ten days union was as perfect in the soft parts as if the patient had been only 22 years old, and the ultimate union of the bones was as complete, an excellent limb resulting. And all this without pegging or suturing the trimmed bones in any way, a procedure which I have never been able to see the use of in such cases.

As to the degree of mischief in the joints of this series, you would find, in reading over the notes before us, that, in the first place, nearly all were operated on before sinuses had formed, or the joint had even been aspirated. Indeed, only three had sinuses at the time of operation. This is a most important matter. It is proverbially difficult to secure primary union of an excision if

a sinus have been present before operation, even though this have been kept as aseptic as possible. And my own feeling is pretty much the same, as regards aspiration, unless carried out in a way that is very rarely seen. But where sinuses have been present we have, in some cases, secured sound union without infection of our fresh wound, *e.g.*, Cases 19, 20, 23. Case 19 healed everywhere, except in the sinus track, by first intention, and even the latter healed up within a week or two. I heard, however, that some months later it had opened again. I heard to-day, just a year after operation, that all is sound. Case 20 had an utterly disorganised joint, suppurating through a sinus posteriorly and deformed out of all shape. Here the result was primary union everywhere throughout the wound, except along the sinus track, which could not be excised as it ran through the ham. When the patient returned from Eastbourne he had a strong, firm, straight limb, but the sinus was still open, the rest of the wound being quite sound, except at one tiny spot where a sharp osteophyte had pierced the recently healed scar. In Case 23 I excised the sinus during operation, and the whole large excision wound was healed perfectly without any suppuration in ten days, and has remained sound ever since, *i.e.*, more than a year. But the ideal of an excision is hardly to be reached in cases having sinuses.

At least eight of these twenty-five cases had large abscesses of the soft parts in connection with the diseased knee, without counting those in which larger or smaller foci of caseation were found in the synovial tissues and bones at the operation. This latter condition was almost invariable. In one, or, perhaps two cases, where the disease had quieted down somewhat, leaving, however, great deformity, there was found more fibrous tissue and less caseous material about the bones.

The displacement of the bones was in a few cases extreme, and had to be corrected at the operation. But I have laid it down, as a rule for myself, never to operate upon such a knee until it has been restored as far as possible to a straight line, by the use of splints and extension. If one does not follow this rule one will now and then find after removing all diseased tissues from bones and synovialis, that it is next to impossible to bring the limb straight on the operating table without dividing some of the tendons, etc., or resecting more bone than otherwise would be necessary. Either of these two alternatives which are most

undesirable, may, in almost every case, be avoided by a week or two of preliminary treatment, solely with a view to straightening the limb. Of course, neglected cases will come to you from time to time where the contraction is so great that no amount of splint treatment will bring femur and tibia even nearly into line, and where dislocation backwards, and rotation outwards are extreme; but even here it is well to try, and every degree of straightening is a clear gain. I think there can be no doubt too that a week or two of rest in bed is always a good preparation for an excision. I have more than once regretted having excised a hip or knee within a day or two of a child's admission into hospital. It has appeared as if the general disturbance, consequent on moving, and the local unrest resulting in increased congestion, have unfavourably affected the general conditions of repair.

From what has just been said, you will observe that the cases in this series were nearly all examples of very serious disease of the knee. The affection in the majority appears to have started clearly in the synovialis. Even in several of the cases in which definite sequestra were present, this seems to have been the case. Of these there were at least six, the sequestra ranging from the size of a small walnut downwards. These were found in about equal number in both femur and tibia, all in patients above 15 years of age. Two other cases (both adults) were exquisite examples of that form of tubercular synovitis in which the whole cavity of the joint is filled with pendulous, polypoid excrescences, ranging from the size of a date downwards.

But though nearly all these cases were in an advanced stage of tubercular disease, it is interesting to note that in only four was it necessary formally to excise the ends of the bone with a saw and thus shorten the limb. In other words, the operations, although performed in a large proportion of the cases for extensive bone destruction, were nevertheless of such a conservative kind that the diseased tissue was removed without the sacrifice of any of the length of limb. This was accomplished by a method of extensive gouging (in some cases amounting to hollowing out of large cavities in both femur and tibia), to be presently described. The ages of those upon whom a formal excision was performed were 26, 32, 15, 21. But in two of these four cases the removal of the ends of the bones was done rather to correct bad deformity after disease than for the removal of the dis-

organised tissue. One was a case of ankylosis after destruction of the articular tissues and great deformity due to rheumatic fever, but in which no recent disease was found; the other was also a case of bad deformity, following tubercular disorganisation of the knee, but where the disease had quieted down in the synovialis and the caries in the bone was nearly healed. If I were treating the other two now, it would be with the gouge rather than the saw.

It is clear from this that it has only been thought necessary to remove the ends of the bone, on account of *disease*, with a saw in two out of 25 cases. In the 21 operated on with the gouge there has been practically no shortening due to removal of the bone. There has in some long-standing cases been shortening of the limb previous to operation simply due to atrophy from disuse, as for instance, in Case 25, where the femoral segment of the affected limb was noted by the Surgical Registrar before operation as $\frac{1}{2}$ inch shorter than its fellow. Here the disease had been present over twenty years. Please remember to look for this in future cases, for, of course, this shortening, if only found after operation, might unjustly be attributed to the latter. And also note, please, this fact, that limbs owing to disuse in some cases of tubercular disease of the knee do not grow as fast as their fellow, an extra reason for operative interference for the removal of the disease rather than for prolonged treatment by rest.

And now I should like to advert briefly to the *rationale* of that method of operating which has been employed in nearly all these cases, and which I introduced here some years ago for both hip and knee excisions.* It has given me better results than any other which I have employed.

The fundamental principle of the procedure is the *complete* and *rapid mechanical* removal of all tubercular material from the joint, by careful dissection, combined with voluminous flushing with sterilised hot water. With this is combined absolute physiological rest during the process of healing. It goes without saying, of course, that the whole procedure shall be conducted upon the most perfect aseptic principles possible.

But it is only when you come to regard every visible and invisible particle of tubercular matter as a possible source of danger to the immediate and *permanent* healing of your excision wound if

* Vide "Brit. Med. Journal," Jan. 19th, 1889.

not removed, that you will obtain the best results. And the object I have always had in view from the first day I used this method, was simply to bring a great rush of water into contact with the spot which was being operated on, so that every loose particle sound or unsound, should be at once carried rapidly away without resting even for a moment upon any clean cut surface. You can all realize how readily small foreign bodies cling to a fresh cut surface, especially a few moments after it is made, when coagulation is commencing. And this is undoubtedly what occurs in many cases with tubercular and osseous débris, unless immediately flushed away. If they are left clinging in the deeper recesses they cause recurrence there, and if they cling to the lips of our wound they give rise to those caseating nodules which re-appear in the scar, as was formerly so frequently observed at about the end of the third week, *even where primary union had taken place* in the first instance.

kind of tourniquet. Any vessels which the hot fluid will not cause to contract at once are easily closed by catch forceps. In these operations you must have noticed that it is often unnecessary to tie a single vessel.

And now as regards the *modus operandi*.

We have several gallons of clean water boiled in these cans which I had made for abdominal flushing seven or eight years ago, and which will be replaced by a proper special tank in the new hospital. This water is raised about six feet above the operating table, so as to obtain a powerful jet capable of dislodging débris by sheer force. This water is conveyed, as you know, through rubber tubes, and finally through these flushing gouges, which I invented some five years ago specially to carry out the principle involved in this method of operation. The water is thus delivered directly upon the surface which is being gouged, scraped, or cut, and all débris is at once swept clear of the



FLUSHING GOUGE, WITH RUBBER TUBING fixed to handle to carry hot water to the cutting edge.

The button opens or closes a specially devised sliding valve.

The removal of débris, whether visible or invisible, by the rush of water is then, as purely a mechanical matter as the removal of diseased tissue in the gross by knife, gouge or chisel. There is no question of destroying tubercle by the heat of the water, although I was once asked at the reading of one of my earlier papers on the subject, at one of our learned Societies, by a very distinguished pathologist, if such a thing was contemplated. Of course, Gentlemen, water hot enough to destroy tubercle, would also be hot enough to kill the sound tissues in the neighbourhood, and extinguish all hope of primary union, at all events, even if it did not destroy the patient outright by shock; and the same may be said of strong germicides. But besides being an admirable mechanical agent in such operations, water at about 105° to 110° F. is a most active hæmostatic, and has long been in use as such, especially in abdominal surgery. And here, too, it is invaluable; so much so, that for my own part in knee excisions, under the use of the hot water flush, I have for some years past given up the use of Esmarch's elastic bandage, and every

field of operation. And all this up to the end of the latter. At any moment, of course, this sliding tap can be closed with the thumb, and I so constructed it that when open, the full strength of the stream is delivered, without let or hindrance, full upon the cutting edge. This is of importance: for if the hole in the tap were smaller than the lumen of delivery the velocity of the stream at the latter would be much diminished, and its mechanical efficiency would be reduced almost to nil. Indeed, if the volume and force of the stream are lost, the whole point of the procedure is missed.

With these preparations the operation is begun by a semilunar incision, passing across the patella ligament at about its middle. The ends of this incision need not pass far up the sides of the limb. Indeed, of late I have been making little more than a curved transverse incision, quite unlike the old horseshoe, the tip of which I have once or twice seen threatened with necrosis, owing to interference with nervous and vascular supply by the long sweeping cuts at the side. Many other modes of opening the joint have been devised and prac-

tised, but, after all, the method alluded to seems to be most in favour. But, whatever incision is made, the most essential matter to be kept in view is this: How can we open the joint so as best to reach all the diseased structures? Everything must be subservient to this.

It is well to mark out the flap first, and, besides to make a little vertical stroke with an aniline pencil, or a scratch with a knife, in the axis of the *lig. patella*, by which the middle of the incision may be recognised when the flap is laid down, finally to be stitched. By this means the latter is accurately replaced and the line of suture is quite even.

Then with one steady sweep of the knife the joint is laid open from side to side. After securing all bleeding points with catch forceps the knee, which was previously nearly straight, is steadily flexed to at least a right angle. This should be done cautiously, lest the atrophied bones should break, but firmly, and strong adhesions may be divided at the same time.

Then commences the dissection of the synovial membrane; and you cannot accomplish this better than by following a regular method. Begin at the tip of the flap and dissect off the diseased and thickened synovial membrane upwards in one continuous sheet until the pouch above the patella is reached. Here you can often strip it off with your fingers in its swollen condition, as easily as a fatty tumour is cleared out of its bed. And by pushing the finger upwards between it and the expansion of the muscular layer you may often reach its reflexion, and then, by pulling, begin to strip off the posterior layer covering the bone. In this way, and with an occasional cut with scissors, or knife, the femur is cleared on the front and sides, and the head of the tibia is reached. Here dissection with the knife and forceps is usually necessary to clean out the small pockets under the lateral and crucial ligaments and the groove between the tibia and the lower attachment of the capsule. Great care is necessary of course in clearing away any diseased tissues from behind the condyles, but this can be usually accomplished by moving the joint into various positions. It is well to spare every part of any of the ligaments which may be sound, even though it be a very small part. You must remember that the disease only reaches the ligaments through the synovial membrane, and that the latter may be very extensively damaged without much effect upon the fibrous tissue of

the ligaments buried in it. Here the flushing helps you much. It leaves the surfaces so clean that you can better determine what is sound and what is not.

When all the synovial structures have been removed in one mass it stands to reason that the chance of some tubercular focus in it being left behind is immeasurably less than where it has been removed piecemeal by clipping or scraping, according to the older fashion. There is also less likelihood of caseous matter being distributed over the fresh-cut surfaces, especially if the flush of hot water be kept up continuously, or frequently applied to the whole area of operation.

The bones come next; and having flushed them clean, you go over every bit of the ends of each, digging out all diseased matter with the flushing gouge. In this way you may have to clear out cavities from the size of a pea to that of a walnut, but in all cases every particle of sound bone must be spared. The play of the water jet the whole time keeps everything so clean that you can detect disease and soundness far more easily than without it. Working this way it has fallen to my lot to clear out large spaces in the condyles and in the head of the tibia, and yet obtain sound firm union without appreciable shortening. In one private case, having lifted out a large sequestrum like a walnut from one articular surface of the tibia, and cleared out an equally large caseous focus from the other articular facet, I was able to pass my finger into the head of the tibia on one side, under the spine (which formed an antero-posterior bridge of bone) and out at the side, so that, as you see, the head of the tibia was reduced to a shell of bone only about a quarter to half an inch thick. And in spite of the fact that in this case both condyles of the femur were hollowed out by caries and only a kind of framework of bone was left after gouging and cleaning, perfect union took place without any suppuration, and the lady is now walking about without any shortening and with no trace of recurrence. A few years ago one would either have amputated at once in such a case, or sawn off an inch or two of both femur and tibia and one would certainly not have seen healing at the end of ten days, as was the case here, *without any suppuration*. Moreover, I may as well tell you, for the case is not included in this list, that this is not a picked case in which so extensive an operation was undertaken because the patient had an excellent constitution,—quite the contrary. She was

past 30, had very marked Potts' curvature from old tubercular spine disease and was passing large quantities of pus in the urine, presumably from tubercular pyelitis. This has greatly improved since the operation as well as the general health.

It is plain, then, that you can do quite as much for the removal of disease with the gouge as with the saw, and that without loss of length to the bone. And, moreover, if asepsis has been preserved, the limb will be as firm as any treated with the saw. The patient, aged 42, Case 11, included in this list, is as good an illustration of this as could be given. The hollowing out of the tibia was extensive, the limb is now firm and sound.

And now, having removed all diseased tissue from all parts of the joint, the latter is packed with sponges wrung out of carbolic solution 1 in 20, while the sutures are being inserted. These are of medium-sized silk, boiled by myself in 1 in 20 absolute Phenol, the material and mode of preparation I have used for years for all operations. Three are placed in the cut ends of the *ligamentum patellæ*, but are not yet tied. Then two are placed in the apex of the flap on either side of our median landmark, and then, from this, all round on either side at about one-third of an inch distance from one another. None of these are tied, at present, but are held in two lateral groups by means of these little rubber clips which I devised for the purpose some years ago, which answer the purpose admirably and keep them from tangling. Then the joint is once more flexed, the sponges are removed, and with them the last traces of moisture. All the field of operation is now covered with Iodoform Emulsion, and squeezed dry again. Then the stitches are rapidly tied one after the other, pressure on the soft parts being kept up with sponges all the time, those in the *ligamentum patellæ* of course first, and the operation is over. Great care must be taken to bring the edges of the wound accurately together, for remember we are aiming at union by first intention everywhere *without any drainage*. And this we obtain in the large majority of cases. I have drained only in a few cases, and mostly in those which had sinuses. And in only one of the whole series has there been real suppuration of the wound, curiously enough the last I have operated on in hospital. Whether this was due to the fact that the joint had been aspirated recently for a large abscess, or that there had once I believe been a small sinus in it,

or that the patient had primary syphilis at the time which was overlooked, or, finally, that our asepsis broke down in spite of all care, I cannot say, but the fact remains, and is to be regretted, although the patient has gone home now with a firm joint. In a few cases there have been little blemishes in the union of the edges, such as at a point where the epidermal edges had not been *perfectly* adapted, and a little pellet of fat had protruded. In such cases a spot of moisture had been found at the first dressing a week or ten days later. Or a stitch has been tied too tight and has cut a little. But only one case has really suppurated in the wound.

Salicylic wool has been the dressing in almost every case. This is laid on in three-inch strips thickly and evenly, the strips being placed in the long axis of the limb. This wool has been then bandaged firmly from below upwards, and the whole limb, *slightly flexed*, has been placed in a piece of Gooche's splint, and secured. Thus dressed, the limb slightly elevated, has generally been left undressed for a week or ten days, and then primary union has been found. Of course the temperature is watched, and if suppuration is going to take place we shall have the usual warning, and can drain. But the ideal case is soundly healed in ten days without any drainage.

I have now given you a brief analysis of these twenty-five cases, and I think they show that we have made important progress within the last few years. Some other interesting points might be adduced from a further analysis did time permit. But if it is clear that great advance has been made, such a study must also convince us that much remains to be done, and that within the next decade we shall probably go as much beyond our present results as the last decade has gone beyond that which preceded it, for be sure there is no finality in surgery.

For Psoriasis of the Scalp. (Besnier):

R. Acid. Salicylic.

Acid. Pyrogallic ... āā 1 part

Ichthyol ... 2 parts

Vaselini

Saponis Moll. ... āā 20 „

M. Ft. unguent. To be applied daily to each patch. It must be discontinued should it provoke any irritation.

A LECTURE ON VERSION.

Delivered in connection with the London Post-Graduate Course, Jan, 17th, 1893, by

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VERSION is the artificial substitution of one or other pole for the part of the child originally presenting. It is usually described under three varieties—cephalic, pelvic, and podalic. In B.C. 460 Hippocrates practised and taught cephalic version, believing that a child could be born alive with no other presentation. He was followed by Galen, but Celsus showed that podalic version was easy of execution, and that delivery was subsequently possible. It was not, however, till the fifteenth century that Parè first showed that delivery was easy after podalic version, thus putting it into its legitimate place for mal-presentations; soon after, Guillemeau first used podalic version for placenta prævia, and, about 1520, Louise Bourgeois, Accoucheuse de Marie de Medicis, advised podalic version in prolapse of the cord, and in accidental hæmorrhage. From that time to the time of forceps which, although invented by the Chamberlains in 1630, remained more or less secret till Chapman's work in 1735, podalic version was the most prominent, cephalic version being greatly neglected, as it was rightly considered that without such artificial aid as the forceps, especially when inertia uteri was present, the accoucheur would be powerless to end the labour. During the last hundred years, however, cephalic version has again been advocated as occasionally useful, as when even the forceps fails to deliver, craniotomy is available.

The indications for cephalic version are not numerous. The membranes must be intact or only recently ruptured, and the uterus must be lax. If the pelvis be roomy, and the head normal, the risk to the child is small; and if the pains are good and the transverse presentation can be easily changed into a head presentation, cephalic version is indicated. Pelvic version is rarely done except where the foetal pelvis is more easily pushed down in transverse presentations than the head.

Podalic version is much the most common form of version employed. When the arm is prolapsed in cases of neglected shoulder presentation, it is

the only form of version applicable, unless the uterus is lax and the arm can be replaced across the chest.

Whenever, also, the hand has to be introduced to perform version, it is easier in the great majority of cases to do podalic version instead of cephalic—the only possible exception being the adoption of Wright's method to be hereafter described. Where rapidity is required in ante-partum hæmorrhage, whether in case of placenta prævia or concealed accidental hæmorrhage, or in cases of prolapsed funis, or in eclampsia—if it is decided to empty the uterus—podalic version again is most useful; it is also sometimes employed after induction of premature labour for contracted pelvis.

One of the most important questions for the accoucheur in cases of difficulty, is to decide between podalic version on the one hand and the use of forceps on the other, when the head presents. In this connection one must first notice that there are necessary limitations as to the size of the pelvis. Thus for podalic version, the conjugate diameter of the pelvis must be at least $2\frac{1}{2}$ inches *or over*, and only then if the bi-mastoid diameter of the head comes down obliquely; whereas the forceps can rarely be successfully used unless the conjugate be at least $3\frac{1}{4}$ inches (conjugata vera). The forceps necessarily tend to bulge the head in the smallest diameter of the pelvis, and prevent moulding of the head almost completely. When the child is full term, it may also be noted that an advantage is gained in contracted pelves by the head coming with its base downwards instead of its vertex. When the after-coming head becomes engaged in the contracted pelvis, it lies in the transverse diameter, and the irreducible minimum diameter of the head—the bi-mastoid ($2\frac{1}{2}$ to 3 inches)—falls more or less in the conjugate diameter of the brim; the vault of the child's head then becomes vertically elongated, so that the $3\frac{1}{4}$ inches of its bi-temporal and $3\frac{1}{2}$ inches of its bi-parietal diameter becomes considerably reduced by this moulding and by overlapping of the bones along the sagittal and frontal sutures. On the other hand, when the vertex presents, the moulding of the head cannot be thus accomplished, the bi-parietal $3\frac{1}{2}$ inches being incapable of so much reduction, owing to the resistance of the pelvis being less likely to effect the necessary moulding. (These points were demonstrated with the female pelvis and foetal skull.)

It must, however, be remembered that traction

can be more forcibly and *safely* employed on the child's head by the forceps in vertex presentation than it can be used manually on the child's neck after podalic version, though, of course, in many such cases the forceps can be applied to the after-coming head. Forceps to the after-coming head should always be tried if moderate traction and manipulation fail to deliver a foetus after podalic version, or foetal death may ensue from the delay. In the pelvis *æquabiliter justo minor* it is especially useful, but less so in the flattened pelvis, as the pressure of the blades in the transverse diameter of the pelvis tends to cause bulging of the head in the narrowed conjugate diameter. In uterine inertia in a normal pelvis manual traction should always suffice.

Version cannot be employed if the head be in the vagina or deeply engaged in the pelvis, or if Bandl's ring be well marked.

Version is indicated, however, in head presentation as compared with forceps, when the occiput is to the wrong side of an irregularly contracted pelvis, or where the pelvis is generally contracted in mento-posterior or occipito-posterior presentation, or in prolapsed funis, central and many marginal cases of placenta prævia, where the hand or foot present with the head, and where forceps fail with the head at the brim.

Certain *preparations* are required before any form of version can be attempted. The patient should be lying on the back, or, as in England, on the left side; the bladder and rectum should be emptied, and, if possible, an anæsthetic administered. Antiseptics should be carefully employed both as regards the woman's genitals, the instruments used, and the hand and arm of the accoucheur. The position and presentation of the foetus should be clearly ascertained by abdominal palpation and be confirmed by vaginal touch. For every form of internal version, the arm of the accoucheur should be bared up to the elbow.

THE METHOD OF APPLYING CEPHALIC VERSION.

There are three methods by which cephalic version may be applied. (*α*) The external method; (*β*) the combined external and internal method; and (*γ*) the internal method.

α The external method—by abdominal palpation alone. The presentation having been ascertained, the head is pushed towards the os uteri by one hand, and the breech away from it by the

other hand; care being taken to avoid all manipulations (as also in all other cases of version) when pains are present. It is best to encourage the patient to lie on the side opposite to which the fundus uteri or breech of the child is directed, as they thus tend to gravitate into the middle line, it being most desirable that the uterine and foetal axes should together lie in a curve at right angles to the plane of the pelvic brim. If labour has commenced, the head may be fixed in good position in the pelvis by rupturing the membranes, and, if need be, engagement in the brim may be effected by putting on the forceps; if labour be absent, it may be necessary to restrain the foetus in its position by means of suitable bandages, as displacement is very apt to recur if its original cause persist.

β Secondly, the combined method, known as Braxton Hicks' method. This method is entirely unsuitable if the arm is prolapsed, as it is impossible to replace it by the combined method, and the mere fact that the arm is prolapsed implies the absence of liquor amnii, and there may also be much tonic contraction of the uterus. For the ready performance of the combined method intact membranes are desirable. One hand manipulates over the abdomen, and one or two fingers in the vagina. With the vaginal fingers, the shoulder is pushed up in the direction of the breech away from the head, and the hand over the abdomen pushes down the head; this is, therefore, not true bi-polar version. The head is thus manipulated between the two hands, and if the bag of membranes be intact, can be put practically in any position desired. If the breech does not readily rotate into the uterine long axis, the vaginal hand can be withdrawn, and the breech pushed up from the abdomen, the two hands then being applied at the two poles of the foetus. Here again the position of the mother should be on the side opposite to the position of the breech, the accoucheur using the left hand if she is on her left side, and *vice versa*, so as to accommodate the dorsum of the hand to the sacral curve.

γ Thirdly, the internal or intra-uterine method, better described perhaps as Wright's method. This is a truly bi-polar method, and necessarily requires considerable dilatation of the os uteri. The hand of the accoucheur is passed through the os uteri and made to grasp the back of the child at its junction with the neck, the thumb being on one shoulder, the fingers on the other. A firm pur-

chase is thus afforded, and the shoulders are drawn laterally away from the os uteri in the direction of the breech, and the head encouraged to come down by external pressure, if need be, so as to be present at the os uteri; the outside hand can, if necessary, change its position from over the head to below the breech, pushing it up, if resistance to rotation is encountered. Where the shoulder is low and the uterus lax, and the lower zone not much thinned, this method is a favourite one with many.

METHODS OF PODALIC VERSION.

Here there are only two methods (the combined and the internal) that can be employed, it being practically impossible to accurately perform podalic version by external manipulation only.

First, as to the combined external and internal method (Braxton Hicks). It is a true polar version provided that the vertex presents. It is advisable that the membranes should be intact or only recently ruptured, and certainly no tonic contraction of the uterus must be present. The patient should lie on her left side as a rule, especially if the abdomen of the child is posterior, as usually happens. Much dilatation of the cervix is not necessary, as two fingers in the os uteri are sufficient. After definitely making out the position and presentation of the child, the presenting part must be pushed away from the os uteri towards the occiput of the child by the vaginal hand, and externally the breech of the child is made to rotate in the same direction. By continued pressure on the breech, fresh parts successively present at the os uteri, and are to be similarly pushed away until the finger impinges on a knee of the child, which may be felt for near the child's elbow, or about the level of the insertion of the umbilical cord: the membranes should then be ruptured, and the knee drawn down, the head being pushed up by the outside hand, the child as a rule being delivered to the half breech, the rest being left to nature, unless rapidity is essential.

Next as to internal podalic version. To perform this, deep anæsthesia is most important, especially if the presentation has been neglected, and the uterus be tonically contracted, or the maternal parts somewhat dry and swollen. As a rule, with a patient on her left side, the left hand of the accoucheur is employed, as following best the pelvic curve, and as able to be pronated or supinated so as to reach the abdomen of the child, which is almost always sufficiently to one or other side of the

pelvis, to be within reach of the hand thus introduced. If, however, the patient be in the lithotomy position, the right arm should be used if the child's abdomen is to the left of the mother, the left arm if the abdomen is to the right of the mother. The arm and the dorsum of the accoucheur's hand is oiled, the palm being left free. The hand is passed up in a conical shape into the uterus, by preference pushing the prolapsed arm, if present, over the child's chest; it is rarely necessary to pass the hand up alongside of the child's arm, though this can sometimes be done in a roomy pelvis. Sometimes the prolapsed arm may be used to push up the shoulder with, until its elbow can be flexed above the level of the os uteri. The hand is passed up in the intervals of the pains along the side of the child, until the neighbourhood of the umbilicus is reached; a knee is then almost sure to be felt, and should be drawn down without searching for a foot, or without endeavouring to make any choice of a particular leg. Version is then performed, as before indicated, by internal traction combined with external manipulation. In impacted shoulder presentations, after podalic version has been attempted, it may be necessary to pass a noose or a blunt hook round the knee to draw it down, room being thus afforded for the hand in the vagina to be utilized in pushing the shoulder up. This proceeding, however, must be very carefully carried out, as where version is very difficult the lower zone of the uterus will almost always be found to be much thinned and in danger of rupture. It is these cases especially where surgical anæsthesia is all important. It is advisable to put a noose round the wrist of the prolapsed arm, so that when the arm is replaced it can be manipulated by means of the tape, and prevented from rising up along the side of the child's head. I have said that no choice of the leg seized need usually be made, but it is material to seize a particular leg when there is an irregular contraction of the pelvis, and it becomes essential that the occiput should come down in the larger half of the pelvis, so that the bi-parietal diameter may be able to pass on one side of the sacral prominence; and if it is remembered that the leg seized always comes to lie anteriorly, it will be at once seen that if the occiput is required to go to the left side of the pelvis, that will be accomplished by seizing the left leg, and *vice versa*.

There are certain *dangers* in the performance of version, more especially internal version. *Rupture*

of the uterus has often occurred during this procedure. Rupture of the cervix is extremely common, rupture of the vagina more rare. To avoid these accidents, the great thing to be careful about is that no rough movement of the hand should be made in utero during a pain, and that in cases where the uterus is tonically contracted, as in delayed shoulder presentations, an anæsthetic, to the surgical degree, should be employed; and if it is found that the lower zone of the uterus be much thinned, and Bandl's ring unduly prominent—felt perhaps over the pubes—it should be a matter of serious consideration whether destruction of the child by decapitation, or embryotomy, would not be preferable.

The danger of *septicæmia* is also a real one, but is easily prevented by the sufficient use of antiseptics, especially as the hand introduced into the uterus is separated from actual contact with the uterine wall by the amnion and chorion lining it. *Post-partum hæmorrhage* is also a danger to be avoided, but it is due not so much to the version as to the too rapid emptying of the uterus after the version has been effected. Rapid traction, therefore, on the fœtus should be avoided in the presence of uterine inertia, and traction should be invariably accompanied by a judicious *vis a tergo* to encourage due retraction of the uterine muscle.

NOTE.—The methods described were demonstrated by means of a Budin's Phantom and a full-term prepared fœtus.

CLINICAL NOTES.

(Specially reported for The Clinical Journal. Revised in each case by the Author.)

WITH MR. BILTON POLLARD AT THE NORTH EASTERN HOSPITAL FOR CHILDREN.

Treatment of Vertebral Caries.

We see a large number of children here suffering from caries of the spine. They come to us at all stages of the disease; but in the early stages, before there is any deformity of the spine, their parents are frequently quite unsuspecting of the nature of their ailment. They are very commonly supposed to be suffering from indigestion, and have frequently been treated for that affection. Young children

are not able to explain clearly either the nature or exact site of the pain which they suffer, and so the girdle pain, which occurs in these cases, is put down as a stomach-ache due to indigestion. Of course, the site of the pain varies with that of the spinal lesion, but even if the child complains vaguely of pain in the chest, it appears to do equally well for stomach-ache. So forcibly have I been impressed with this symptom, that I never neglect to make a careful examination of the spine in all cases in which the children complain of persistent pain in the belly or chest.

The first point to settle before commencing the treatment of a case of spinal caries is whether an abscess has formed or not. To decide this, I place the child on its back, and examine the ilio-psoas region of the abdomen. In this boy, although there is no visible fulness in the abdomen, I can thus feel an abscess in each iliac fossa, and on pressing deeply on the inner side of the swellings, the abscesses are forced up against the abdominal parietes forming visible globular projections just internal to the anterior superior iliac spines. Quite small unilateral abscesses may be readily detected by comparison with the other side, and by the sensation of fluctuation which can be easily made out. In this boy, you notice that the thigh is flexed and rotated out; it is impossible to extend the limb fully, and the attempt to do so causes pain. These signs are dependent on tension of the fibres of the ilio-psoas, which is caused by the abscess. It is worth mentioning that I have known cases like this one to be mistaken for disease of the hip joint, but the diagnosis may be readily made by paying attention to two points: (1) When the thigh is fully flexed the movements of adduction, abduction and rotation can be freely and painlessly made. (2) The presence of the psoas abscess.

The treatment will consist in immobilising the spine completely by fixing the boy in a Thomas's double hip splint, and in evacuating the abscess by incision. I shall take him into the hospital for this treatment. The method which I adopt for the treatment of such abscesses is (1) to make an incision into the abscess about one inch and a half in length parallel to Poupart's ligament, and so placed that its central point is half an inch internal to the anterior superior iliac spine; (2) to scrape out the tubercular lining membrane with a sharp spoon, and then to scrub out the cavity with mops of wool attached to long clamp-forceps; (3) to flush out the cavity with a large quantity of water sterilised by

boiling; (4) to plug the cavity with mops of wool which are left there—to check the oozing of blood whilst the stitches are placed *in situ*. Buried stitches include the wall of the abscess and the divided muscular layers. The skin wound is closed by a separate series of stitches; (5) to withdraw the wool, and tighten up the sutures; (6) to dress the wound in a suitable antiseptic manner. I expect the incision to heal by first intention, but I am not surprised if I find that the abscess has refilled. If it has, I evacuate it through an aspirating needle. This aspiration sometimes requires repetition. If the fluid evacuated by the aspirator is serous I am in hopes that a cure will result; but if it is purulent, as at the first operation, I often find that prolonged drainage is required.

I consider immediate closure of the wound to be of the first importance; for, if healing does not take place at once, a chronic sinus will probably be left, and there is a danger that septic infection of the abscess cavity may occur, and that prolonged suppuration may result.

To keep the spine absolutely at rest I shall fix the boy in a Thomas's double hip splint. The leg pieces of the splint are not made parallel, but diverge to enable the patient to use the bed pan more easily. As, in this case, the disease is not high up, there will be no need of a head piece to the splint. The top cross bar will be about six inches above the upper limits of the disease. When the child is fixed on this splint, he can be turned about so that the nursing can be attended to without causing any movement of the spine.

If there were no abscess I should put the boy on the double splint, and send him home. Such was done in the case of this little girl. She was brought here about two months ago, complaining of pain in her back and chest, which was aggravated by movement. The mobility of her spine was much impaired, and she supported herself by means of her hands when sitting or standing. Her mother said that the child was fretful and out of sorts, and often cried with pain in her back and chest. No abscess could be detected in the abdomen. The splint was applied about seven weeks ago, and she has been brought here to-day for the first time since. Her mother tells us that the child no longer cries or complains of pain, and that her general health is decidedly improved. She has been taking cod liver oil and steel wine, but we must attribute the chief part of the improvement to the complete immobility of the spine,

which has been secured by the splint. It is my practice to continue the splint for twelve months after all evidences of the disease have disappeared.

Here is another child whom we may consider cured. She was brought to me when she was 3½ years of age in January, 1888. She was then extremely emaciated. She complained of pain at the pit of her stomach and in the dorsal region of her spine. The spine was rigid, but there was no deformity. I found an abscess in the left iliac fossa. I may say that it is quite a common occurrence to find a psoas abscess by abdominal palpation in cases of spinal caries before there is any deformity.

The abscess was treated in the way prevailing at that time. The pus was removed by aspiration, and the cavity was repeatedly washed out through the aspirator needle with a solution of corrosive sublimate (1 in 4,000), and an ounce of a glycerine emulsion of iodoform (10 %) was left in the cavity. The cavity filled up again and was aspirated seven days later. The fluid removed was now serous. After another week a second aspiration of serous fluid was made. The cavity did not fill again, and the child was discharged five weeks after admission. Had the fluid continued to be purulent, the case would not in all probability have done so well under this treatment as under that I have sketched out for the boy we are taking in to-day. The girl was kept in her splint continuously for 1 year and 10 months, with the exception of five weeks, when she had to be on her face, owing to a sore having formed on her back. When taken out of the splint a plaster of Paris jacket was applied, but this was discontinued after six weeks in favour of a poro-plastic felt jacket, such as she now wears.

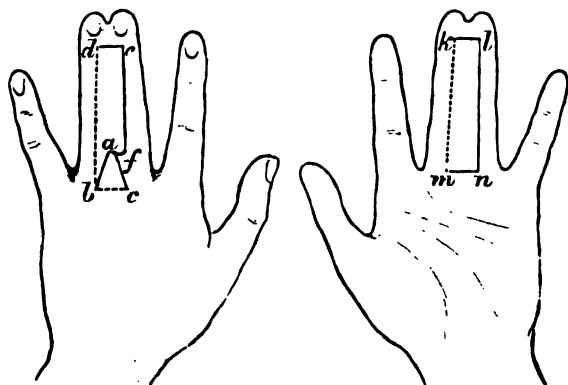
It is now five years since she came under treatment; her health is good, she is fairly well nourished, she is free from pain, her spine is mobile, and there are, in fact, no signs of spinal disease, either present or past, for there is no deformity. This child is but one of many attending here in whom good results have been brought about by completely immobilising the diseased vertebral column for a long period by means of Thomas's double hip splint.

To measure for such a splint take the distance from the posterior axillary fold to about two inches above the ankle, and note the distance of a point midway between the iliac crest and the tip of the great trochanter of the femur from the axillary fold

and also that of the gluteal fold from the same spot. Take also the circumference of the chest just below the axillary folds, and that of the pelvis midway between the iliac crest and the tip of the great trochanter.

Webbed Fingers.

Here is a case which has been operated upon for webbing of the second and third fingers. The web extended to the tip of the fingers, and the two terminal phalanges were united by bone. The essential points in the operation are (1) to separate the fingers to the natural extent, the incision reaching further on the dorsal than on the palmar surface; (2) to cover the proximal extremity of the digital cleft with skin in order to prevent the re-union of the fingers, which is so liable to take place there; (3) to preserve all the skin and make use of it in the best way to cover the sides of the fingers.



Diagrams 1 and 2, representing the dorsal and palmar surfaces of the hand, show the incisions which were employed in this case. The triangular flap, *bac*, consisting of skin and subcutaneous tissue, was raised and left attached at its base *bc*, indicated by dotted lines. The flap, *bafed*, was next dissected up and left attached to the ring finger along the dotted line, *bd*. The flap, *mnlk*, was then raised from the palmar surface of the united fingers and left attached along the dotted line, *km*.

The fingers were then separated by an incision, which, on the palmar surface, extended to the centre of the line, *mn*, and on the dorsal surface further back, viz., to the centre of the line, *bc*. The fingers were then held apart, and the triangular flap, *bac*, was turned down between them and fixed

in position, its apex being attached to the skin on the palmar surface of the hand at the centre of the line, *mn*. The dorsal flap, *bafed*, was then turned round the side of the ring finger, and its border, *ef*, was stitched on the palmar surface of that finger along the line, *lm*. Similarly the palmar flap, *mnlk*, was turned round the side of the middle finger and stitched on the dorsal surface of that finger along the line, *ef*.

You now see that the flap, *bac*, is firmly united in its new position and effectually prevents adhesion of the fingers at the proximal end of the cleft. The middle finger is completely covered by skin, but, as you notice, there is a small granulating surface on the ring finger. That place was not covered by skin at the operation, because, in order to do so, it was necessary to make more traction on the flap than it was thought wise to employ.

Prolapse of the Rectum in an Infant.

This child was sent to me from the medical side four weeks ago on account of prolapse of the rectum. The bowel protruded three inches beyond the anus, and the child strained so violently that it was very difficult to reduce it. I succeeded in returning it within the anus, but it was shot out again as soon as I removed my fingers. The mother told us the child was very constipated, and on inserting my finger into the prolapsed bowel and passing it through the anus I found the rectum was occupied by a mass of hard fæces of considerably larger size than could be passed through the anus. The fæcal mass was broken up and removed by the finger and a scoop, and the rectum was thoroughly emptied by an enema. The straining now diminished, the prolapsed bowel could be reduced, and by drawing the buttocks together with a strip of strapping the anus was so effectually supported that the bowel was kept in position. The child was brought to the hospital daily during the first week in order that the rectum might, if necessary, be emptied by enema or by the scoop, and the mother was provided with strapping and was instructed to re-apply it as often as it was needed. The child has been taking cod liver oil with the object of improving its nutrition and softening its fæces. The constipation, which, in this case, is the cause of the trouble, has been difficult to overcome. Rhubarb and Soda mixture was first tried; subsequently Cascara Sagrada was added, and during the last week Compound De-

action of Aloes has been employed. An injection of a solution of Sulphate of Iron (gr.ij ad ʒj) was ordered to be given daily for its astringent effect on the rectal mucous membrane. At first the pro-lapse recurred at each action of the bowels, but during the last week it has not come down at all. I shall now discontinue the strapping and the injection, but I shall persevere with the other treatment until the bowels act regularly and the motions acquire the natural softness of infancy.

WITH MR. LANG AT THE ROYAL OPHTHALMIC HOSPITAL, MOORFIELDS.

On the advantage of using Atropine in the form of Ointment.

For this patient, who is suffering from Iritis, you will notice that I have ordered an ointment of Atropine and Cocaine instead of Atropine drops. The reasons for so doing are that one wants the Atropine to act continuously on the iris until all the adhesions are broken down, and the pupil is fully and evenly dilated; now the ointment effects this by remaining in the conjunctival sac for an indefinite time, and whilst it is in contact with the eye the Atropine is being constantly absorbed, whereas drops behave like tears, and are rapidly carried down the lachrymal canal into the nose and throat where they produce the characteristic unpleasant dryness so generally complained of whilst they are being used.

In consequence of the intermittent action of the drops, they have to be applied much more frequently to attain such good results as are obtained with the ointment, and they often fail when the ointment succeeds. Again, the ointment keeps for an indefinite period in any climate without undergoing change, whilst the drops are very prone to grow a fungus and undergo changes which may readily produce Atropine irritation—a most distressing condition if it is necessary to keep the pupil dilated for any length of time, and one that recurs on any subsequent use of the same drug. As some forms of Iritis are always relapsing every means should be adopted to prevent the first occurrence of Atropine irritation. Formerly it was frequently produced by the combined use of Belladonna fomentations and Atropine drops, or by the Belladonna alone; but since it has been recognised that the only virtue a Belladonna

fomentation possesses is that of moist heat and of a weak mydriatic action, the cleanly Boric Acid fomentation and the powerful Atropine and Cocaine ointment have taken their place to the great benefit and comfort of the patient and to the diminution of cases of Atropine irritation.

For recent and severe cases of Iritis I employ an ointment of Atropine and Cocaine, 2 per cent. of each, which I apply two or three times within an hour or so. The patient is given a similar ointment of the strength of 1 per cent. of Atropine and 2 per cent. Cocaine, of which a piece the size of a split pea is put by the patient or nurse in the lower conjunctival sac every two or three hours until all adhesions are broken down, or for the first two days, when the maximum effect will have been produced. After this it may be employed two or three times a day.

It is also very useful after cataract operations, since it may be applied along the margins of the closed lids. Here it acts as efficiently as if it were put into the conjunctival sac, and has a great advantage over drops, in that the eye is neither disturbed nor its asepsis endangered; a not imaginary accident, for recently I saw a wounded eye lost by suppuration where the sepsis was probably produced by the introduction into the conjunctival sac of septic material together with the ointment. If the latter had been applied outside the lids this would probably not have occurred.

The ointment is made by dissolving the pure alkaloids of Atropine and Cocaine in melted Yellow Vaseline, in preference to White Vaseline which occasionally irritates the eye. The Cocaine is added to the Atropine, as it is found that the combination of the two acts more powerfully than do either of them separately.

THERAPEUTICAL NOTES.

The Treatment of Eczema Infantile.

The management that I have adopted is follows: The mother is prohibited from applying water in any form, especially soap and water. solution of olive oil and carbolic acid in the proportion of one to fifty is applied several times during the day to the affected areas, as often as the child seems to suffer from itching. She is instructed to use the oil lavishly and to wash the child's skin with it as though it were water. This can be

easily done, removing all of the dirt, leaving the skin perfectly clean, if a silk handkerchief or old linen fabric be used. The use of tea or coffee and all stimulants is forbidden. Also all kinds of food that should not be given to children at this age.

The child is allowed to be in the sun and enjoy the out-door exercise, even though its skin should become dirty. The olive oil and carbolic acid will prevent itching, so that the child will not lacerate the skin by scratching. In this way the injured parts are allowed to become healed, while the oil softens the crusts and keeps them from being reformed. $\frac{1}{10}$ grain of calomel is given every two hours; this I usually continue for one or two months, varying in frequency as occasion may require. If, after the third or fourth day, the child does not improve rapidly, I use salicylic acid in the form of an ointment, 10 grs. to the ounce. This is applied frequently to the diseased parts, and is I think, one of the most satisfactory applications that can be made. I believe that I have used about all of the preparations that have been mentioned for this disease, but I have found none that gives greater satisfaction.

Usually I do not see such patients more than three or four times, as the recovery will be as rapid without as with me, if the mother is faithful in carrying out all instructions. I do not know in what way the calomel acts; I give it whether there is constipation or diarrhoea. Sometimes there will be from eight to a dozen stools each day; I do not pay any attention to this condition of the bowels unless the discharges give mercurial indication. If they do, I then discontinue its use until the stools become less in frequency and when they are again indicated. I was formerly led to believe that the disease was occasioned by some alimentary disturbance, but I do not now so believe it to be. I do not believe that the benefit derived from the mercury is due to its action upon the alimentary tract; I do, however, to its action upon the system in general, perhaps in changing secretions which are acids to alkali. The serum exuded from these eczematous patches turns litmus paper red, at least this has been my experience. I think that the successful management of these cases rests in changing the secretion to neutral as I have had many cases make a rapid recovery by the administration of the calomel with the application of simple oil.

B. MERRILL RICKETTS,

Journal of the American Medical Association.

Salicylate of Soda in Serous Pleurisy:

Germain See pointed out that the Salicylate of Soda, while curing the disease in acute articular rheumatism, prevented serous inflammation. Achreht showed that it is an excellent remedy for idiopathic serous pleurisies whatever their origin. This was subsequently confirmed by Richorst, and many others. According to Tebry and Talamon, the curative effect of Salicylate of Soda in serous effusion is not less specific than in rheumatism.

(McKee, *Times and Register*.)

Pruritus Vulvæ. (*Hare's System of Practical Therapeutics*, vol. iii.):

This symptom is so distressing that we will call attention to a few matters recommended in this work for its treatment. Of course, it may be a symptom of various things, but very often its treatment will have to be empirical. Nitrate of Silver is recommended, at times using even the solid stick to the affected area. Cocaine, 4 to 10 p.c. solution, for local use during paroxysms. Carbolic Acid, 5 to 10 p.c. solution or ointment. Skene recommends Carbolic Acid and Tincture of Iodine in equal parts, used by atomization. Also Iodoform, saturated solution in Ether, applied with atomizer.

[Our own experience has been that Goulard's solution (Liq. Plumbi Subacetat. Dil.) with one-third Laudanum, applied with hot water, is the most serviceable of any for ordinary cases—the mucous membrane being kept apart by means of cloths saturated with this lotion. In the meantime, hot vaginal irrigation can be occasionally used of a 1 in 4,000 sublimate solution in hot water.—J. M. KEATING.]—(*Internat. Med. Mag.*)

FORMULA.

For Sycosis. (*L'Union Medicale*):

R. Chrysarobini

Ichthyol ... 3ā. 5 parts

Acid. Salicylic. ... 2 "

Lanolini ... 100 "

M. Ft. unguent. To be well rubbed in at night, and the part covered with gold-beater skin.

THE CLINICAL JOURNAL.

WEDNESDAY, FEBRUARY 15, 1893.

A CLINICAL LECTURE ON THE TREATMENT OF TYPHOID FEVER.

Delivered at the London Hospital, January 24th, 1893,
By **SAMUEL FENWICK, M.D., F.R.C.P.,**
Physician to the Hospital.

GENTLEMEN,—I propose to call your attention this afternoon to Typhoid Fever, so far as regards its treatment. We shall not discuss its diagnosis or prognosis, but inasmuch as its mode of treatment is liable to changes from time to time, according to the popularity of this or that special remedy, I take this opportunity of laying before you the general indications for its treatment. I cannot, for obvious reasons, bring the cases into the theatre from the wards, as is customary at a clinical lecture, but will, where necessary for the purpose of illustration, refer to those which have lately been under our observation.

I must, before entering into the question of treatment, briefly allude to certain points as regards the pathology and symptoms of typhoid fever. In the first place, what are the anatomical lesions we expect to meet with? The most important is the ulceration of the lower part of the ileum, which is preceded by enlargement of Peyer's patches and the solitary glands. The microscope demonstrates the enlargement to be due to a cellular infiltration which occurs during the first week; this is followed by necrosis and sloughing of the patches, resulting in detachment of the sloughs about the third week. Associated with this, there is enlargement of the lymphatic glands in the mesentery.

Formerly these changes were vaguely described as due to local irritation. Now we know them to be due to a micro-organism capable of rapid reproduction, whose poisonous products lead to inflammation and destruction of the tissues.

Another point we must bear in mind when we consider the treatment of the disease, is the granular degeneration which takes place in all the muscular structures. To be accurate, there are two forms of muscular degeneration occurring in typhoid fever: (1) hyaline; (2) granular degeneration. The hyaline variety affects the voluntary muscles

in the early stages of all specific fevers, such as typhoid and typhus fevers; the granular form occurs in a later stage as a result of the prolonged high temperature, and chiefly affects the muscular structures of the heart.

These then are the main points as regards the morbid anatomy. What are those of the symptomatology?

- (1) *The typical temperature.*
- (2) *The typical diarrhoea.* In some epidemics there is no diarrhoea, on the contrary the bowels may be constipated throughout.
- (3) *The typical eruption,* occurring chiefly on the abdomen, back, and loins.
- (4) Pain and gurgling in the right iliac fossa.
- (5) *Enlargement of the spleen.* This occurs in all cases, and is a symptom of great importance in prognosis. In certain cases where relapses occur, it will be found that the spleen remains enlarged even when the temperature has become normal. Hence if, when all other symptoms have subsided, the spleen is still increased in size, a relapse may be expected.

The natural termination of the fever usually takes place about the third or fourth week. At that time the micro-organisms seem to perish either on account of being poisoned by their own secretions, or from the want of material for their further nutrition. The complaint may terminate in death from exhaustion, hæmorrhage, or perforation of the intestine.

The first point to consider as regards treatment is this: since the disease is due to a micro-organism, can we by any means destroy this exciting cause, and so cut short the disorder. Even before we knew of the definite cause of typhoid fever, much consideration was devoted to the question of abortive treatment. Formerly venesection was employed; now it is never used, no evidence having been left on record as to its success. When I was a student, many believed enteric fever could be cut short by stimulants; but, however, useful in maintaining the action of the heart, they have no power to abridge the duration of the disease. Quinine in large doses (grs. xx to xlv) was formerly used with the same object, but experience shows it does not cut short the

disorder. I do not mean to say that Quinine is of no use in typhoid; on the contrary, where you have a considerable daily variation of the temperature, towards the termination of the fever, it is most valuable. This varying temperature is probably not due to the action of the bacilli, but to the absorption of secondary products resulting from the granular degeneration.

In this hospital, owing to it being so near the docks, we meet with cases of typhoid associated with malaria. The disease then presents certain peculiarities. It begins suddenly; after about the fourteenth day the temperature comes down, and then soon shoots up again. With such relapses it may go on for even three or four months. In this class of case Quinine in large doses is of great use, and I usually give with it Arsenic in small doses after the first relapse.

Emetics were at one time given during the early stages to relieve the headache. As we have now more simple remedies, and as vomiting when there is ulceration of the intestine might lead to perforation, they ought not to be employed.

Of late years many drugs have been recommended for their germicidal action, but though this plan of treatment is indicated on scientific grounds, we are not yet in a position to make any definite statement as to any advantage likely to be derived from them. It is true that contemporary medical literature contains laudatory remarks upon a number of drugs prescribed for this purpose, yet the question still remains an open one. Carbolic Acid, Iodine and Beta-Naphthol have all been recommended. My own experience is limited to the use of Beta-Naphthol, and I cannot say that it has been successful. The last case treated had very severe hæmorrhage, and it is interesting to note that Murchison relates a case where he believed a severe hæmorrhage was due to the administration of Iodine. Calomel has been used with two objects: (1) to sweep out all decomposing matter from the intestine; and (2) for the germicidal action of the Mercury. I have tried it freely, but without much success.

You will naturally ask if all these means to check the fever and kill the bacilli fail, what treatment is to be adopted? The answer is, you must try to keep your patient alive until the bacilli die or become inactive. This may appear to be begging the question, but you will see that it is not, when you remember the treatment carried out in our wards. The patient is put to bed, is

watched carefully for any secondary affection of any important organ, especially of the heart, lungs, or nervous system, so that any untoward symptom may be at once attended to. He is carefully fed and nursed so as to sustain his strength whilst the disease is running its course.

It is very important to put your patient to bed at the very earliest stage. In private practice one meets with cases occasionally who are going about and attending to their business, even after the ulcerative stage has been reached. A gentleman brought his son, a schoolboy, to me, with the history that he could not eat, was backward in his school work of late, and was supposed to be suffering from dyspepsia. I found his pulse quick and the temperature 102° , and diagnosed typhoid fever; yet this boy had been going daily to school. I ordered him at once to bed, and he fortunately made a good recovery. Other cases have not been so fortunate, death from hæmorrhage or perforation being by no means uncommon in persons who, being ignorant of their condition, have gone about their work without taking medical advice.

The first point is, therefore, to get your patient to bed; keep him quiet from all excitement, and maintain the temperature of the room about 65° to 68° .

The next point is the diet. The patients, as a rule, have no appetite; in all probability the gastric juice is lessened in quantity and quality, and the stomach movement is diminished by the granular degeneration of the muscular coats. In order, therefore, to sustain the strength of the patient, the diet must consist of materials readily digested. The first thing, therefore, is to see that the diet is in a fluid form. You may give milk or milk and water freely, or chicken broth or beef tea, peptonizing these or not according to the needs of the particular case. You rarely give starchy foods, as they are badly digested, and are apt to cause pain and flatulence. As to the quantity of the food, this must depend on the particular needs of each case.

The stools must be carefully watched, as undigested food is a common cause of increased diarrhoea. You may find clots of milk in them; in such a case either order the milk to be peptonized or add to it barley water or lime water. *It is wise not to allow any solid food until two weeks after the cessation of the fever.*

Stimulants are not as a rule indicated in slight cases where the temperature is moderate, and as a

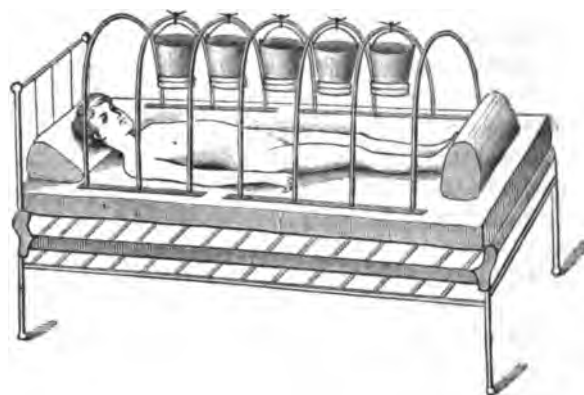
rule the young do not need them. They are necessary in delirium, as this denotes grave exhaustion of the nervous system as well as in any failure of the heart's action. It is for the latter that we watch so carefully throughout the whole course of the disease, for changes in the sounds of the heart. When the first sound becomes weak and toneless, then is the time to give stimulants, beginning with a small quantity, and gradually increasing it if necessary. Under their influence the heart acts more freely, and the feeble dicrotous pulse will quickly improve. When the pulse intermits, stimulants are also indicated. In the wards here we generally order brandy, commencing in adults with a tablespoonful every three hours. Where hæmorrhage has recently taken place, port wine should be preferred, commencing in adults with two tablespoonfuls every four hours. In private practice wines or champagne may be administered instead of spirit.

As this feebleness of the heart's action is due to the granular degeneration of the muscle, consequent on a prolonged high temperature, we may consider here some of the means adopted for reducing the pyrexia.

Simple sponging with cold or hot water will do this in slight cases, and at the same time give comfort to the patient.

Cold baths have been very much recommended for this purpose. When the temperature is above 103° in the rectum or above 102.2° in the axilla, some authorities recommend that the patient be placed in a bath of 68° for ten minutes; others that the temperature of the bath should be 95° when the patient is immersed, and gradually diminished to 78° . The baths may be repeated every two hours. I cannot say that I ever pushed the bath treatment to any great extent, as it has certain obvious objections. It is difficult to carry out, requiring at least three nurses to move the patient into and out of the bath without danger; the movement is attended with considerable discomfort to the patient, sometimes producing faintness; and though the temperature is lowered, the diminution is only temporary, the temperature rising again in a short time after the patient has been put back to bed. Some years ago, being struck with these objections, it occurred to me that the early recurrence of the temperature was to some extent the result of warmth produced by the bed clothes, and I introduced as a substitute for the bath, what is known here as the ice-cradle.

It consists (see illustration) of an ordinary iron cradle sufficiently long to cover the patient's entire length, and broad enough not to limit his movements, and so be irksome. The patient lies under this, covered with some light and opaque muslin. Attached to the cross bars of the cradle are small zinc buckets in which ice can be placed, and the outer surface of the buckets should be covered with lint to prevent any of the condensed moisture falling on the patient. The cradle is covered with a counterpane, with the exception of the two ends, which are left open to allow a continual interchange of air. A hot bottle should be placed at the patient's feet, and before the cradle



*DRAWING OF THE ICE-CRADLE, AS USED BY DR. FENWICK.

is used he should be well sponged with tepid water. By this method one can reduce the temperature as efficiently as by means of a bath. Its advantages over the bath are the extreme ease with which it can be applied, the absence of the discomfort to the patient caused by lifting him into a bath, and the fact that it can be used for a longer time, and so permanently keep the temperature down. Ice is not necessary in all cases, the continual surrounding of the body by the air at its ordinary temperature being often sufficient. It has been shown by Dr. Soltau Fenwick that, of 1,000 cases—excluding those terminating within three days from admission—treated here, 147, or almost 15 per cent., died; whilst of 100 treated in my wards with sponging and the ice-cradle, only 6 per cent died. These cases were all under treatment during the same periods so that the question of any epidemic severity applies equally to both sets of cases.

* From "Outlines of Medical Treatment." By Samuel Fenwick, M.D., F.R.C.P., and W. Soltau Fenwick, M.D., B.S. Lond. We are indebted to Messrs. J. & A. Churchill for permission to publish this illustration.

The Nervous System.—*Headache* can usually be relieved by sinapisms to the back of the neck, or an ice bag to the forehead. Sometimes leeches are useful in the early stage of the disease.

Insomnia is very common and is an important symptom, since want of sleep will kill as certainly as want of food. If the insomnia merely amounts to wakefulness at night, whilst the patient sleeps in the daytime, it is not a matter of so much moment, but complete insomnia, especially when accompanied by delirium, needs prompt attention. You may order for such a case Syrup of Chloral in 3j doses, along with a full dose of brandy or whiskey. This gives better results than Morphia.

Delirium is best treated with Bromides or Chloral and stimulants; but where Chloral fails, Morphia may be employed.

When the nervous system is even more depressed, accompanied by picking at the bed clothes, or involuntary passage of the urine or fæces, we have to rely on increasing the quantities of the stimulants. Some give Ammonia, but I prefer brandy, ether, or champagne, and at the same time moderate doses of Quinine. You must watch carefully to see if the bladder is regularly emptied. You may have observed that about the second or third week we always pass the hand over the abdomen to see if the bladder is distended. When it is so, the urine must be drawn off at regular intervals or cystitis will occur and form another serious complication.

The Lung.—What we watch for so carefully day after day, are the fine crepitations and dulness indicative of pneumonia. Owing to the diminished expansion of the chest, the lung is apt to become congested, and so pneumonia must be guarded against, as it is a complication of serious import. Bronchitis is always present, but is rarely dangerous. In lung complications again you must rely on free exhibition of stimulants, not on expectorants. To prevent any one part becoming especially congested, the patient should have his position changed every few hours.

Lastly, with reference to the treatment of what one may term the accidents of typhoid fever.

Diarrhœa.—When should we interfere as regards the diarrhœa? My rule is not to interfere when not more than three stools a day, each of moderate quantity, are passed. When there are more than three in a day, or when they are very copious, or when

the patient is quickly losing strength, it becomes necessary to check the excessive drain. First of all ascertain if the diarrhœa is in any way due to the irritation, resulting from ill-digested food. You will judge of this by the stools. If they contain clotted milk, it will be necessary to dilute it or peptonize it, or even stop it altogether. If there is nothing in the stools indicative of ill-digested food being the cause, then it will be a question what drug to give. We are generally told that the Enema Opii will stop it. Undoubtedly this is often the case, but it is always preferable to have some rules to guide the treatment rather than trust to any particular remedy. The best rule is always to examine the stools. See, by means of litmus paper whether they are very acid; if so, add lime water to the milk, and give internally Mistura Cretæ. If they are not very acid give dilute Sulphuric Acid and Opium; and if very watery give an Enema Opii, or order a pill of Lead and Opium to be taken three or four times a day.

Hæmorrhage is a very alarming symptom to all concerned. It is sometimes indicated before it shows itself in the stools by a sudden fall in the temperature. We had a case lately in the wards where, during the second week of the disease, there was a marked fall of temperature during the night. I pointed out that hæmorrhage might be expected, and the stools became dark in a few hours afterwards. Whenever hæmorrhage occurs, you must at once reduce the quantity of food, and give port wine if a stimulant be needed. If it is slight you may prescribe dilute Sulphuric Acid and Opium; if severe, Gallic Acid and Opium, or Acetate of Lead and Opium. Hypodermic injections of Ergotine are also of use in severe cases.

Tympanites is not only distressing, but is a source of danger, inasmuch as it prevents the proper descent of the diaphragm, and so favours the congestion of the lungs we are so anxious to prevent. It is due to loss of muscular power. Hot fomentations are useful; or you may have some Linimentum Terebinthinæ sprinkled over the flannel after it has been wrung out of hot water, and applied frequently to the abdomen. An enema of Assafoetida will sometimes relieve, or it may be necessary to pass a long tube and so withdraw the gas. Where the tongue is dry and cracked, Turpentine, x to xx drops for a dose, frequently repeated, is often of use.

Peritonitis, so fatal in typhoid, is usually due to perforation, but sometimes it commences in the

region of the ulcer before perforation takes place. When you find marked tenderness over the lower abdomen, you had better apply a bandage rather firmly round the abdomen, reduce the amount of food, and give small doses of Opium. It is impossible to say that in each case perforation would have taken place where this treatment has been adopted, but the support and rest thus afforded certainly diminish the risk of it.

A CLINICAL LECTURE

ON

TWO CASES OF STRICTURE OF THE URETHRA.

Delivered at St. George's Hospital

By WILLIAM H. BENNETT, F.R.C.S.,

Surgeon to the Hospital.

GENTLEMEN,—Stricture of the Urethra is common enough, and, as a rule, there is no difficulty worth mentioning in treating an ordinary case, but now and then cases will occur which, however experienced you may be in the ordinary treatment, will give some trouble. There are, at present, two patients in the Hunter Ward whose strictures are of this kind, and there are points of interest in connection with them about which I wish to speak.

The first case is that of a man aged about 35. He is in the corner bed; he came in some time ago with a tight stricture and a perineal fistula. The stricture had existed, so far as he knew, for eighteen months or two years; the fistula had formed about six weeks or two months before admission. So far this was not an unusual case. In the ordinary way the patient would have been placed in bed, and would have had a catheter introduced and tied in or passed daily in order to draw off the urine from the bladder, so that it should have no chance of passing through the fistula; the perineal fistula would then probably have healed in the usual course.

But this case was peculiar from the fact that co-existing with this stricture and perineal fistula were active symptoms of syphilis; for the patient had on his forehead a squamous syphilide, he also had on his belly two or three patches of syphilitic eruption, partly tubercular and partly scaly. There was no chancre, but a scar on the penis,

just below the glans, showed that at some time or other one had been present. The first point of interest is this, viz.: that although this man had not been conscious of having had gonorrhœa, he really had a very tight stricture indeed at the time of his admission, so much so, that nearly all the water he passed came through the fistula.

At first sight it may appear to you that this was an excellent case for dilatation of the stricture as rapidly as possible, and for the use of instruments for diverting the urine from the fistula. But that was not the procedure I adopted, because I thought, seeing that the man had at the same time symptoms of active syphilis, that the proper plan, before attempting to pass any instrument at all, was to put him under anti-syphilitic treatment. We, therefore, kept him in bed and treated him with Mercury for five or six weeks. The stream of urine gradually increased in size, the fistula became smaller until it almost healed, so that only a few drops used to trickle through it, the main part of the water passing through the urethra in the ordinary way. In fact, under this constitutional treatment only, the stricture dilated, and allowed a fair stream of water to be passed, whereas it only trickled away when he came in; finally, the perineal fistula completely closed.

In this case the stricture was probably due to syphilitic ulceration in the urethra, which had healed spontaneously, as it often does. The internal administration of Mercury removed the syphilitic material which had been thrown out, and so caused the stricture almost to disappear by the ordinary process of absorption; the canal of the urethra being thus restored, very little water came through the fistula, the healing of which was greatly expedited by the constitutional treatment adopted. Now, a case like this, successfully managed, in private practice would certainly bring to the practitioner a great deal of credit—a stricture allowed to cure itself almost without the introduction of an instrument. Supposing we had directed all our treatment to the immediate cure of the stricture and perineal fistula by local means, and, having the main idea in view of diverting the stream of urine from the fistula, had resorted at first to the employment of instrumental dilatation, what would have been the result? We should have made that man very much worse than he was before; we should have irritated structures in which syphilitic deposits existed, the deposits would have become greater, we should, perhaps,

have passed bougies through the stricture and dilated it up to a certain point, but contraction would again have soon occurred, and we should have done no permanent good until the constitutional treatment had been carried out. The case is a good one to show you that occasionally you must be prepared to meet with exceptions to the ordinary rules, even in the treatment of such a common condition as stricture.

Another point—a very good clinical point—about the case is this: when our constitutional treatment had done all we thought it could do, that is to say, when the cutaneous syphilides had disappeared, and the patient was passing a stream of urine about the size of a No. 8 or 9 catheter, and he was well under the influence of Mercury, I began to treat his stricture locally by the introduction of bougies. Some of you will recollect that in my first attempt to pass a catheter I was foiled. I did not persevere in the attempt to pass instruments, because the moment I introduced the bougie the urethra began to bleed; not because I used any force, for I make it a rule never to use force. However lightly the inside of this man's urethra was touched it bled. I have told you before that if there is one thing you ought not to do in dealing with strictures of the urethra, it is to draw blood. You may take it for granted that if you once draw blood when you are attempting to pass an instrument for stricture, it is time to stop. (This is apparently not the opinion of all surgeons.) Unless there is some very urgent reason for immediately relieving the bladder of its contents, if you see a drop of blood come from the meatus, or if even you find the catheter merely smeared with blood when you withdraw it, do not immediately make any further attempt at dilatation, but let the patient rest another week in bed, and then try again. Now, in this case, as I say, I postponed instrumental treatment because the urethra bled so freely, when gently dealt with. The blood trickled from the meatus on to the scrotum, although the patient had actually been resting in bed for something like two months. There must be some explanation for this remarkable tendency to bleeding, and this explanation is afforded by the fact that the man was under the influence of Mercury. Of course, all of you know that one of the signs of a patient being thoroughly under the influence of Mercury is a certain spongy condition of the gums, which tend to bleed on gentle pressure. But you must understand that this sensitive con-

dition of the mucous membrane is not limited to the gums. It is, for instance, not an uncommon thing for a man who has been taking Mercury for a length of time to complain that he has bleeding piles, because, he will state, whenever he passes a motion there is blood on it. If the administration of the Mercury is stopped the blood on the motions will cease. The mucous membrane is, in fact, so irritable that the least pressure makes it bleed. In this case of stricture we stopped the Mercury; I waited until a week afterwards, and then passed without any bleeding, trouble, or irritability a No. 9 catheter. He had then eliminated much of the Mercury which was in his system, and the mucous membrane bore the ordinary treatment well.

After having stopped the internal use of Mercury (his symptoms of syphilis had by that time disappeared), we proceeded with the dilatation of his stricture, until it would easily admit a No. 10 bougie (English). Since that time he has been managing for himself; and now he is passing a No. 10 or 11 bougie daily, and his perineal fistula has soundly healed.

The other case to which I wish to call your attention is that of a man who had one of those strictures which are called penile; that is to say, it is situated in the spongy portion of the urethra, being about two inches from the meatus. The patient is not a very healthy-looking subject; he is rather thin, pale, and has had syphilis, as you can see by the mark of a chancre-scar. He is not conscious that the stricture came on after an attack of gonorrhœa; and the situation is not that in which you generally meet with stricture after gonorrhœa; in point of fact, the stricture is almost always due in this part of the urethra to ulceration or injury. The commonest cause of this ulceration is syphilis. We may consider, then, that this particular penile stricture arose from a syphilitic cause; it is very tight, hard, and inelastic. You may take it for granted that strictures arising from considerable ulceration will be the most rigid, the tightest, and most difficult to deal with. Now this man's syphilis has long since been treated; it occurred many years ago, and there was no indication of any active syphilitic manifestation about him; it would, therefore, have been foolish to think of treating him for syphilis, as was done in the other case.

On examining this stricture (I never, as a rule, commence dilating a stricture directly the case

comes into the hospital; I always keep the patient in bed a week or so first), it turned out to be what I expected—a very hard gristly constriction, which did not “give” at all, and showed no indication of spasm, inasmuch as there was no nipping of the instrument when applied to the end of the stricture. There was no irritability about it, for had there been I should probably have drawn a little blood, or just as the end of my catheter or bougie touched the anterior end of the urethra I should have felt the spasm. This insensitiveness showed that there was no reason to wait long before beginning the active treatment of the case. Therefore a few days after admission I commenced the attempt at the dilatation of this stricture, and I failed to get any instrument into it at all. On four successive occasions I failed before I passed anything through it, the orifice was so small and the whole thing so resistant. Large and small bougies were tried; we tried those small wax bougies, and did not even then succeed. You will find that a wax bougie of this kind—I cannot tell you why—will often pass through a stricture which will not admit any other kind of instrument, such as the many kinds of flexible or metal bougies, however small or of whatever shape they may be. Perhaps the warmth of the urethra may melt the end of the wax bougie a little, and allow it to become pliable in such a way that it follows readily the sinuous shape of the stricture. But in this case, as sometimes happens, even an instrument of that kind failed. Probably because the tissues were so hard and gristly that directly the bougie became warm, instead of passing onwards it simply doubled up. Then came the question as to the next thing to try after that. I say “after that,” because both of the bougies to which I am now about to refer are a little dangerous in the hands of people who are not constantly accustomed to their use. One is a little whalebone bougie, and the other is of twisted cat-gut. The latter is very apt to catch in the lacunæ about the urethra, especially when the contraction of the stricture towards the centre leads, as it is apt to do, to the dragging open, as it were, of the mouths of these lacunæ. You may fancy that the instrument is so delicate and so inoffensive that no harm can be done by giving it a little push onward. I have, however, known a cat-gut bougie like this make a wound—a small false passage you might almost call it—in the floor of the urethra which was followed by abscess. For the case we are now discussing I had finally to use the whalebone bougie

—an excellent one if you use it properly, but also one of the most dangerous of all these little instruments for a comparatively inexperienced man to employ; it is so stiff, the ends are so fine, and it is so easy to catch it in a lacuna and make a false passage.

And now as to the way in which this whalebone should be used. First, bend it a little in the centre so that it is not quite straight, and then in order to pass it nicely, you will find all that is necessary is to introduce it into the meatus, pass it steadily onwards, rotating it rapidly between the finger and thumb the whole time. Hold the penis in one hand, put the end of the bougie into the meatus and rotate the instrument, which should be held at about its centre between the finger and thumb. You can see here how the end of the bougie wriggles about, so that it is very unlikely to catch in a lacuna. Once it enters the stricture it goes through quite easily. This little instrument should be used only for penile strictures like that of this man, and not for those in the membranous urethra, because of the risk of making false passages. The instrument is so small that unless the hand is very well trained it is hardly conscious of the bougie having gone through any tissues at all; and thus a practitioner may be deceived and led to think that the bougie is passing through the stricture, when perhaps it is really going through the tissues by the side of it.

Well, we ultimately got the whalebone bougie through this particular penile stricture, and it may not appear at first sight a very extraordinary progress to have made. But, fortunately, once an instrument, however small it may be, is passed through a stricture, there is then not the least difficulty in going on with the dilatation. The instrument having been passed in this way was left in the urethra for about an hour only. The next day a No. 2 ordinary soft bougie was passed with ease, and within a few days that man had a No. 10 catheter tied in his urethra.

Now there is another point about these penile cases which is very interesting clinically. It is a very common thing in a case of penile stricture for a surgeon to think that there are two strictures—a stricture in the penis and a stricture in the membranous portion of the urethra. What is it that leads to this false impression, for it is quite rare to find two strictures in this way?

It is true that sometimes, although as I have said very rarely, with a penile stricture there is

also found one in the membranous urethra. How are you to make out for certain in any particular case whether there are or are not two strictures? As you know well enough, any irritation applied near the anterior end of the spongy urethra by a sharp instrument is liable to be followed by spasm in the membranous portion. Here we have a case of stricture in the spongy portion; the stricture has been dilated, and in the course of the treatment the surgeon who is passing the instrument—if he is not alive to certain facts—thinks there is a second stricture in the membranous portion, because he finds after he has passed it through the stricture in the spongy part, that the tip of his catheter or bougie is arrested again just as it gets to the membranous portion.

That second "stricture" is almost always the result of spasm. Now as to the way to determine whether it is really spasm or not—we will suppose that the penile stricture has been dilated up to the size of a No. 10 English catheter; if you pass a No. 10 bougie through the penile stricture into the bladder, you will probably find that it meets with great resistance at the membranous portion—that there seems, in fact, to be a stricture there. All you have to do now to clear the matter up is to pass, say, a No. 7 (I am speaking here of metal instruments alone).

The No. 7 is too small to cause any irritation in the penile stricture, and therefore no spasm is produced in the membranous urethra. If, then, there is no real stricture in the membranous part, your instrument runs straight through into the bladder without any obstacle. Here a captious critic may say—this may be true enough, but how do you know that there is not in the membranous portion a stricture which could carry a No. 10 catheter and would therefore of course easily admit a No. 7? In point of fact, this objection is of little value, though it at first sight has some weight, and can be easily met in the following way. The calibre of the penile stricture is, say, equal to No. 10; now here is a little instrument, the shaft of which is the size of a No. 6, and at the end is a bulb equal in size to a No. 10. You first pass this bulbous end well through the penile stricture. The instrument is then allowed to lie in that position until the spasm which may have resulted from irritation which has been caused by the passage of this large bulb through the penile constriction has subsided; and then to convince your critic, all you have to do is to pass it on, and

you will nearly always find that this large bulb will go through the membranous portion without any resistance at all, because the part (size No. 6) which lies in the penile stricture is not large enough to cause irritation. This I only mention as an interesting little demonstration in relation to these "double strictures" so often mentioned, but which so rarely exist.

These are the points of particular interest that the two cases present. In the matter of the general treatment of stricture there are, of course, many other points of importance and interest on which I have not time to touch, except this one relating to the last case. I have said that we dilated the stricture up to the capacity of a No. 10 English instrument, but you must not suppose that we have cured it—an impossible thing to do. We hope that the man will now be able to manage for himself by passing the bougie and so keeping the stricture dilated. Now, unfortunately, these strictures in the spongy portion are very liable to be what is called "resilient." In a couple of days we may possibly find that this stricture has contracted down to the size of even No. 2 or 3; sometimes in eight and forty hours there may be contraction from a No. 10 English to a No. 2 or 3. What are we to do in such a case? If I find that this man's stricture contracts rapidly, as is not unlikely, what I shall do—and it would be the best thing for most practitioners to do—will be to perform an internal urethrotomy. And if this operation has to be done, the question arises, how best to perform it, and would it not, perhaps, be better to try to dissolve the stricture away by electrolysis?

In favour of the urethrotomy there is this to be said: anybody can do it who has any surgical acumen, and who uses the right sort of instrument. There is always a great deal of discussion as to the best instrument's to use in internal urethrotomy. It is the practice with many surgeons to use an instrument which is pushed into the stricture and made to cut through it from before backwards; but it is not such a safe instrument as one which can be passed beyond the stricture, and made to cut through it from behind.

I strongly advise you not to use an instrument which divides the stricture from before backwards, but to employ one that cuts from behind forwards. No stricture is so resistant that it cannot be dilated, with a little trouble, up to the size of a No. 6 English catheter, and if this can be done,

or even if it can be dilated to a somewhat smaller size, then an instrument can easily be introduced which will divide it from behind forward.

In this method of procedure there are two advantages: first of all, if you can pass a urethrotome right through the stricture, and cut from behind forwards, you are certain, in drawing it out, to divide the whole length of the constriction; but in the other case (*i.e.*, when the cutting instrument is pushed onwards through the stricture) it is sometimes difficult to tell whether you reached the end of the stricture or not, because as you gradually approach the posterior limits, the parts become more and more elastic and soft, and therefore a person who has not a very delicate touch will be very prone sometimes to stop the action of the instrument before he has divided the whole stricture. Myself I always use Sir Henry Thompson's modification of the urethrotome, and strongly recommend you to do the same. It has at the end of it, as I suppose you are aware, a bulb (containing a sheathed knife) which will go through any passage which will carry a No. 6 catheter. After the stricture has been sufficiently dilated, you pass the bulb well beyond it while it lies free in the urethra on the other side of the constriction; the knife is then projected, and the instrument simply withdrawn from the meatus. That is the simplest by far of all the methods of division. It is certain that in this way you must divide the stricture, and another thing is that you cannot unwittingly do any harm.

But all this about internal urethrotomy you may say is, after all, not very new, and the treatment by electrolysis is very much newer. This is true enough, but whichever plan you use, remember you will not in the true sense *cure* a stricture like this. You are almost led to believe from what is sometimes said on the subject, that if a patient submits himself to the treatment by electrolysis, he will have no further need of treatment; please have no misapprehension on this point, whether a patient is treated by electrolysis or urethrotomy, he will, excepting in rare cases, have to pass instruments occasionally. Now and again you may find a "show" case which will give better results after electrolysis than are generally obtained by other treatments. But you may also occasionally find a "show" case after internal urethrotomy. For instance, I performed urethrotomy upon a patient twelve years ago, and from the time of his leaving my hands after the perform-

ance of the operation till now he has not passed an instrument. There has been no recurrence in the ordinary sense of the word, and once, when, much against his will, I examined the urethra ten years after the operation, a No. 10 bougie passed with perfect ease. But that is an exceptional instance, and so are some of the cases cited in support of electrolysis. Then, again, you must always remember that this latter method involves complicated and expensive apparatus, which are not always accessible, and sometimes at the crucial moment fail to work, while an instrument, like this for urethrotomy, you can borrow or buy at no great cost, and it is always ready for use.

I do not mean to say anything to prejudice you unfairly against electrolysis—I only say it will not in the true sense of the word cure stricture; I doubt indeed if it will effect anything more than can be done by internal urethrotomy, that is to say, it is capable of affording an amount of relief in certain cases which cannot be obtained from the ordinary methods of dilatation. The appliances required for urethrotomy are less complicated and less costly than those used for electrolysis, and, in the long run, are more reliable. Choose simple instruments for surgical purposes when you can effect the same, or nearly the same, results by them as are obtainable by the use of complicated apparatus; they are less likely to be out of order when required, and, moreover, it is generally easy to tell exactly what you are doing with them—no small merit in a surgeon's implement.

ON THE TREATMENT OF SPRAINS.

BY

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THE cases to which I wish to direct your attention to-day are of interest, partly from the frequency with which they occur, partly from the fact that imperfect recovery is exceedingly common, and has been the cause at various times of much discredit to the profession; they are merely ordinary sprains, such as you must have seen on many occasions before, and which you will certainly meet with in abundance in private practice hereafter; the majority of them are of recent occurrence, inflicted only a few hours; a

few of them are of longer standing, and in one or two all the immediate effects of the injury have disappeared, and we only have the patient's statement as to what has happened.

The patients you have seen are for the most part working men, and the accidents were nearly always very grave ones, attended with a great amount of violence; but you will find that leaving aside for the present the question of occupation, this is not the kind of patient or the class of accident in which sprains most frequently occur. They are much more common in those whose muscular system is poorly developed and easily fatigued, whose muscles, especially when they are growing weary, are not trained to keep sufficiently keen and watchful guard upon the action of the joints; and they are not caused so much by overpowering force as by sudden or unusual movement catching the joint when it is unprepared. And there is this peculiarity about the sprains that occur under these circumstances, that while the immediate effects are usually much less serious than in those which you see in the hospital wards, the more remote ones, the stiffness, pain, wasting, sense of insecurity, and other troubles that are so often complained of, and so difficult to cure, are very much more common. There is no proportion between the severity of the immediate symptoms and the frequency or persistence of the after consequences; and, paradoxical as it may seem, I believe it to be nevertheless true, that slight accidents of this kind are very much more often followed by grave after troubles than severe ones.

It is seldom that an opportunity is afforded for directly seeing what has happened in a joint that has been sprained, but from the external signs you can usually form a very fair idea of the nature of the injury, although you may not be sure of its extent. The swelling is the most striking feature. Sometimes when the number of vessels torn across is considerable it begins at once, and reaches its maximum within a few minutes, filling up all the hollows around the joint, and extending more or less up the limb; sometimes, on the other hand, it begins very slowly, and may not seem serious until some hours have elapsed; but in any case, if left unchecked, it continues to increase, until at last it is brought to an end by the tension of the layers of fascia and fibrous tissue which are stretched and strained to their utmost. The skin is tense and glistening; the temperature is raised; the pain, which at the moment of the accident

was acute and sickening, subsides into a dull, throbbing ache, made tenfold worse by the least attempt at movement, and particularly in nervous or excitable people there is in the course of the next few hours an appreciable degree of fever.

Now you will not have treated many cases of sprained joints before you come to the conclusion that not only the length of time the patient is laid up, but the frequency with which recovery is imperfect, depends very largely upon the degree of swelling that sets in after the accident, and the length of time it is allowed to continue—the greater it is, and the longer it lasts, the smaller the chance of the joint regaining its full strength and range of action. The blame it is true is usually laid to the charge of the ligaments, but except, perhaps, in the case of the knee (and injuries of the knee in which ligaments are torn across ought to be called dislocations rather than sprains), they certainly do not deserve it. In the vast majority of ordinary sprains ligaments escape altogether, or at least, without serious hurt. The bones give way before they do—the fibula, for example, breaks before the internal lateral ligament of the ankle joint; the ligaments resist to the last. To tear them across requires a degree of violence much greater than is usually brought into play. Some of the fibres may be ruptured, or, more correctly, wrenched off the bone (for at the point where they are attached they often spread out like a fan, and a sudden twist can take them in detail, one by one); but in all ordinary sprains, and certainly in that class in which we meet with most examples of imperfect recovery, this is the utmost injury they sustain. And then, if one can form an opinion from what occurs after dislocations, in which the amount of laceration is of course much more extensive, there does not appear to be any difficulty about their repair. Their broken ends join together again, slowly perhaps, but without difficulty, and certainly without entailing any special degree of disability afterwards. The real cause of the weakness and stiffness that so commonly occur after sprains, is not the injury the dense unyielding fibrous tissue sustains, but that which is inflicted upon the soft and delicate structures that surround the tendon sheaths, and fill up all the inequalities around the edges of the capsule between the denser structures and the bones. In the slighter cases these are merely bruised; in the more severe ones they are crushed and distended with extravasated blood, which pours out from rents in their surface,

and fills, if it is allowed, the synovial cavity of the joint, or of neighbouring tendon sheaths and bursæ. Perfect freedom of action is impossible until the whole of this has disappeared again, and until the effusion of lymph that follows as a matter of course has been absorbed. If any is left it becomes organised; and then parts that should be uniformly soft, yielding with the least pressure, remain hard and uneven; indurated masses upon one side of a joint prevent its being flexed thoroughly; rigid structures, glued together by old adhesions, on the other prevent its being straightened out; and the longer it is kept at rest the more dense and hard these structures become, and the more the tissues around become starved and wasted.

The first thing in the treatment of a sprain is to stop the extravasation of blood and the effusion of lymph; the next is to promote in every way the absorption of that which has escaped already; and this must be done without starving the part or keeping it at rest too long. The function of a joint is movement; if it is kept rigidly fixed and compressed for any length of time, especially after an injury, its tissues waste, and it loses the power of working; and the longer it is kept at rest, the worse its condition becomes.

I am not going to waste time discussing the customary methods of treatment: nothing can be more inadequate than the ordinary wet bandage as ordinarily applied, or more injurious than plaster of Paris; the extravasation must be stopped at once by cold, heat or pressure; or more correctly, by cold or heat and pressure, for the two former are only of use as temporary measures. Whatever is done must be done thoroughly. The foot may be plunged in ice-cold water until it is numbed, or cold water may be poured down upon it from a height; or it may be immersed for half a minute in water at a temperature as high as can be borne without actual scalding—longer application, in either case, is of no use—what is wanted is the immediate effect. Then, unless the sprain is a very slight one, the foot should be bandaged. Now, the ordinary way of applying a bandage is useless; all the pressure falls upon the bones where it is not wanted, and misses entirely the hollows between where it is. The foot must first be accurately packed with cotton wool; one thick pad down the front, along the extensor tendons; two others, one on each side, below and behind the malleoli, and smaller ones in front. These can be easily prevented from slipping by means of rubber

bands. A thick layer of cotton wool should then be placed over the whole, and the bandage applied over this from the toes to above the middle of the calf, drawing it tightly over the cotton wool, not so tightly above it. If there is a really thick layer, the bandage, however tight it is, can do no harm.

At the end of twenty-four hours the bandage must be taken off, and the foot and ankle thoroughly manipulated. The patient should be seated comfortably, with the knee well bent, and the heel of the affected foot resting on the knee of the manipulator. At first, of course, the part is exceedingly tender, and the patient feels inclined to flinch; but if the operator begins gently, using light, upward friction, first above the seat of injury, then over it, and gradually increases the amount of pressure, all the wrinkles will be rubbed out from the skin: it will move more freely on the structures beneath; and then these, in their turn, can be gently worked and kneaded until all trace of swelling has disappeared, and the parts can be freely manipulated. Then, as a final proceeding, the joint must be quietly, but firmly moved, once, through its whole range, from extreme flexion to extreme extension. Even if the ligaments are torn this will cause but little pain, for they are not put upon the stretch unless this movement is carried beyond the normal. After this the bandage is to be replaced in the same manner, and with the same precautions.

This is to be repeated each day, gradually increasing the manipulation and passive motion, and reducing the compression. For how long, depends upon the severity of the injury. Merely slight sprains I have treated with massage from the first, using a bandage for one day only, and rather as a precaution than otherwise; severe ones require bandaging for at least a week; those in which there is evidence of a badly injured ligament, as, for example, a persistently tender spot at the tip of the internal malleolus, for longer still; and, in any case, massage and manipulation should be kept up for a week or ten days more. As soon as the bandage is left off, the patient, if the injury has been a severe one, should be given an elastic anklet. It helps to support the joint, which always feels weak: it prevents any swelling, and, what is even more valuable, it gives the patient confidence in the joint. But when the first is worn out, a second anklet should never be allowed. As the first yields and stretches the amount of support it gives grows less and less, and imperceptibly the joint

regains its strength, until, at length, one day the patient suddenly finds that the anklet is no longer any use; then is the time to leave it off. If another is bought the patient will probably continue to wear one for the rest of his life.

Treated in this way joints never become weak or stiff. There is not the slightest fear of causing inflammation. It will sometimes occur from the tension of the extravasated blood if it is allowed to collect unchecked in the cavities in and around the joint; or if the patient is allowed to use the joint recklessly in a way that he ought not; but it is never brought on by massage and passive motion properly supervised and carried out. The stiffness and weakness left after sprains are not due to past inflammation, but to the fact that from the dread of it the joints have been kept rigidly fixed and compressed by bandages until they have lost the power of working, and nothing but continued use, massage, douching, manipulation, passive motion, and even, in some cases, wrenching under an anæsthetic, can restore full freedom of action, if once they have been allowed to get into that condition.

A LECTURE

ON THE

USE OF CHLOROFORM IN LABOUR.

Delivered in connection with the London Post-Graduate Course, January 31st, 1893.

By J. B. POTTER, M.D., F.R.O.P.,

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GENTLEMEN,—Of all the improvements in practice during the last fifty years none has been greater than the introduction of Anæsthesia. When we, who live now, think of the suffering that was undergone so recently without alleviation, and that many operations can now be performed that formerly would not have been attempted, it seems strange that the first time that ether was used in labour was in January, 1847, not yet fifty years ago, by Dr. Simpson, who first brought it under the notice of the profession in February of the same year. Very soon his example was followed by many others, but objections came to be raised to the practice, and some of them continue even now to impede the more general adoption of anæsthesia in labour. I propose to consider some of these

objections, also the advantages claimed for anæsthesia and the best way of effecting it. I say nothing of the religious objections, or those based on the supposed advantage of pain. The main objections to be noticed are the risk of death, production of lingering labour, the increased danger of post-partum hæmorrhage, and the risk of giving an anæsthetic in a patient the subject of delicate health or heart disease. The advantages claimed for it are the relief of pain, the quieting of the patient, prevention of inertia, thereby shortening the labour, relaxation of muscular rigidity, and especially of the perineum and external parts, and its use in instrumental labour and eclampsia.

In discussing the use of anæsthetics in labour, the first implied objection to be met occurs in the form of the question as to whether more women die after an anæsthetic, and to that it may be answered at once that the mortality is certainly not increased thereby, and that, in fact, the women who die from the anæsthetic itself are practically none. Of course, we must admit that the case is different when giving the anæsthetic in cases of operative urgency; but in giving it in the ordinary way in midwifery we may practically assert that the mortality is *nil*. Whether it is that a parturient woman is a subject presenting greater resistance to its effects or not, the fact still remains that in ordinary cases of labour the administration of an anæsthetic does not cause death.

Now, with regard to the production of lingering labour, or delay of labour; is the labour lengthened by the administration of an anæsthetic? At first it was supposed that this would be the case because the anæsthetic has the power of restraining voluntary action. But it soon began to be found that although the power of the anæsthetic to stop voluntary muscular contractions, and notably those of the abdominal muscles, was certain, yet its effect on the contractions of the involuntary muscles was small, and that these contractions went on just the same as in a woman who was not anæsthetised. The distinction lies between anæsthesia pushed to the surgical degree, and as we use it in labour. In ordinary anæsthesia in labour the effect is on the voluntary, and not on the involuntary muscular action.

Then again, another point which depends very much on the stage of the labour; an anæsthetic given to a large extent in the first stage, may have a lowering effect on the uterine contractions; while

in the second stage, though it has so great an effect upon the voluntary muscles, it has very little on the uterus; and, indeed, I think that the compensating influence on the tired and relaxed uterus is so great that it quickens rather than prolongs the labour; consequently while lingering labour without it makes the case a long one, taking up the time of the busy practitioner, if he have the courage to use an anæsthetic, he will thereby save his time rather than lose it.

The next objection is that with regard to post-partum hæmorrhage. Now, if the effect of the anæsthetic was to prevent contraction of the uterus or otherwise affect its muscular fibres, of course, the danger of post-partum hæmorrhage would be increased. But let us consider what is the cause of post-partum hæmorrhage; the great cause is inertia uteri, in other words, an exhausted tired out uterus which cannot contract satisfactorily. We therefore get a relaxed condition of fibres, predisposing to post-partum hæmorrhage. Does it not seem reasonable that the way to relieve this worn out uterus is to save it? Is it not better to quiet, to calm the uterus, and thus allow it to regain its strength? In my own experience, I have never seen a case of post-partum hæmorrhage in which an anæsthetic had been used; on the contrary, all I have seen have been those in which an anæsthetic had not been given; or take the large experience of Dr. Fordyce Barker, he writes that post-partum hæmorrhage was in no way to be attributed to an anæsthetic, the only cases in which it occurred being those in which it was not administered.

Then, lastly, as to the objection to the administration of an anæsthetic on the grounds of the delicate condition of the woman, brought about by serious disease, and notably by heart disease. This objection to anæsthetics on the score of heart disease is a popular notion which is very common; even now, hearts are carefully examined beforehand in order to avoid the contingency of harming the patient. But I think if you will ask the men who have the most experience on this subject, they will tell you that they have no fear in giving an anæsthetic in cases of heart disease. If you examine the accounts of deaths under anæsthetics published from time to time, you rarely find that the heart was diseased; mostly they are cases in which the heart was little affected—and where there was no organic disease. It is a curious fact that the heart is usually found either in a normal condition, or only very little degenerated and con-

sequently not able to be accurately diagnosed beforehand. And if this is true in a broad sense, how do these facts apply to the case of labour? The state of labour, when the pains are being undergone, is one of considerable strain on the whole system; now, does it not seem to you that the danger to a weak heart must be greater from this strain, this severe muscular exertion, than if the strain were modified? Hence it is that we find that in those cases in which we know that there is heart disease, the patient bears an anæsthetic perfectly well, that the pains which had been causing her great distress, now that all is quiet, cease to harass, her breathing improves, her pulse becomes steady, and the whole labour goes on satisfactorily. Almost all the cases I have seen, and one or two especially I can call to mind, where it was urgently necessary to assist the woman, the anæsthetic seemed certainly to quiet the organ and allow the necessary manipulations to be effected satisfactorily.

I think, with regard to all these objections, that they are for the most part merely imaginative; and the more practically experienced you become, the less you would be likely to agree with them. The risk of death is not at all increased neither is the duration of the labour; but, quite the other way, in most cases you find the duration of the labour, and therefore the risk of uterine inertia leading to post-partum hæmorrhage, is diminished. The same is true with regard to the distress thrown upon a weak heart, or where the patient has been in a very delicate condition of general health.

Now, as to the advantages of the use of an anæsthetic, the first great advantage from the patient's point of view is the quietness which she realizes, and the instant relief to her pain. I say from her point of view, for it is much more important to her than from the point of view of the medical man to whom the relief of pain is secondary to the relief of the patient. The quiet produced in the room and in the attendants round her—all this is beneficial to the patient. The screams of the patient invariably have a demoralizing effect upon those in the room, upon the neighbours, and upon the doctor himself. I can recall the case of a poor woman, many years ago, screaming for five hours consecutively, during the passage of a somewhat large head through a narrow pelvis. Those, then, are important points from the side of the patient.

With regard to the other side of the question,

the great thing is the prevention of inertia. A woman, we will say, has been through a long first stage of labour, and after being a certain number of hours in this condition, she enters the second stage somewhat tired. Now, if she is allowed to continue without any relief, she goes on bearing these pains, straining forcibly, until, after a half hour or so, the pains get less, or else, as in some instances, it becomes a case of tonic contraction—one of the worst forms of inertia you have, the danger of which may be prevented by the proper use of an anæsthetic as soon as she enters the second stage of labour.

With regard to shortening the labour as against the idea that an anæsthetic may cause it to be lengthened. In those women of rigid muscular fibre, who have more or less rigidity of the vagina, of the perineum, and to a certain extent of the muscular fibres of the uterus itself, we get a labour increased in duration by the resistance of these parts. We know that after a time, especially as regards the perineum and vagina, the parts become hot and dry, and we get the labour coming to a standstill. Chloroform helps us in this way, that it not only prevents the violent muscular exertion, the forcing against these parts, but it diminishes the resistant power of the parts themselves; it throws out a certain amount of soft mucus, it relaxes the parts, and the head gradually coming down, the delivery takes place,—actually much more quickly than if the case had been left alone, and if the muscular action had been allowed to drive the head against these hard, rigid, and dry parts. I am not going to say that possibly in one case out of ten the labour may not be slightly increased in duration, or that possibly the use of instrumental aid, as of forceps, may not be required. Different women vary in their behaviour with regard to an anæsthetic, and therefore sometimes a little delay may take place; but this is quite an exception to the rule.

With regard to the question of the perineum, an anæsthetic is not only important for the duration of the labour, but for the preservation of the perineum itself. A number are saved from rupture through the use of an anæsthetic, and especially where it is necessary to use instrumental aid for the purpose of delivery.

With regard to the use of instruments; where we have to deal with a large head, a somewhat narrow pelvis, a firm unyielding perineum, to operate with forceps without an anæsthetic is an extremely difficult thing. But with the patient anæsthetised

we are able to control the head instead of violently dragging it through the pelvis, and by moderate traction the head is delivered. Then, again, in the latter part of the second stage of the labour the great advantage of an anæsthetic is that it has a considerable influence in overcoming that natural delicacy and modesty of the woman, which sometimes compels her to keep back her pains, and prevents her from allowing them to go on satisfactorily for fear of those disagreeable occurrences which are apt to take place at this time, notably the squeezing out of fecal matter on account of the pressure on the rectum, and the passage of flatus. She voluntarily tries to avoid all this, until an anæsthetic deprives her of consciousness, and uterine action continues unimpeded.

Then, as to the danger of post-partum hæmorrhage after an anæsthetic. Having been saved a great amount of trouble by its use in the second stage, we claim that she comes into the third stage with a uterus somewhat rested. Uterine inertia is frequently another name for uterine exhaustion, and this is less likely to occur in an anæsthetised patient than in one worn out by pain. As to the exhaustion of the "delicate" woman—the woman with her heart affected, or some other organ diseased—we may say, that, on account of her sensitiveness to pain, and especially to pain in the uterus, and to the occurrence of cramp, the work of the uterus is much more satisfactorily done under an anæsthetic than in a case where a woman is struggling unaided against the difficulty.

I think we may therefore sum up the question in this way, that the anæsthetic certainly prevents fatigue, that it rests the woman, and allows the parts to get into the most satisfactory condition, fitting her for the muscular efforts required. This is better than to allow the uterus to be worn out, and then to deal with the various troubles which are apt to occur. In cases of eclampsia, indeed, we may consider it as our sheet-anchor, but this scarcely comes under the head of what we are considering—the use of chloroform in ordinary labour.

The use of chloroform for the purposes of diagnosis also is of extreme value, as in cases of spurious pregnancy and spurious labour; but it has another advantage in a diagnostic way, as in cases where we have contracted pelvis to measure, or in cases of tumours where we have to make an accurate and thorough measurement, and in all cases where it becomes necessary

to explore the pelvis with the hand, than which nothing is more painful to the woman. To introduce the hand into the vagina and pelvis, sweep it round, and ascertain the presence of any growth or to measure the size of the pelvis—any or all of these things are very much expedited by means of an anæsthetic.

Now, as to one other question—that regarding still-born children. It was originally stated that the administration of an anæsthetic not only caused various troubles to the woman, but that with it the number of still-born children was greater. But you may take it that there is not a particle of evidence that one more child has been still-born in consequence of an anæsthetic than before; on the contrary, in consequence of the diminished force, the diminished squeezing, the diminished delay, the child is more likely to be born alive. We may say then that the question of the still-born child has no reasonable basis as an argument against the anæsthetic.

Now, before speaking of the kind of anæsthetic to be employed and the mode of employing it, I would ask, which are those cases of labour which we may now say are cases in which you would give an anæsthetic, and which are those in which you would withhold it. My answer to that question is that in no case should you hesitate to administer it; the only cases in which you should withhold it are those in which the women themselves refuse it; certain women for their own special reasons do refuse it. Also in some cases the labour is so rapid that you have no time to give it. Sometimes the second stage consists of one single pain. A third case is that where the woman is in the habit of having "precipitate" labour. This is not common, but it does happen. A woman may wake up in the middle of the night and say to her husband, "I have a pain in my stomach," and before he can get up to go for the doctor, the child may be born; or it may be born by dropping suddenly on the pavement as the woman walks along the street, or as she comes up by the railway, or sits in the park. In these cases very often the uterus has no time to contract, and the woman may perish from inversion of the uterus or post-partum hæmorrhage. If you know beforehand that she is subject to this precipitate delivery, and you happen to see her in time, then chloroform comes to her aid: you must endeavour to delay the labour by absolutely quieting the uterus, and thereby steadying the progress of the labour.

Now, if an anæsthetic is administered at all, it may be laid down as a general rule that it should be given to a certain degree—not in small and inadequate doses. And with regard to the administration, first a word as to the kind of anæsthetic to be used. I myself consider that chloroform is the best; at first ether was used, but it occasioned great inconvenience on account of the awkwardness of manipulating it single-handed as one has often to do, on account also of its suffocating and disagreeable character. Chloroform has therefore held its ground, being pleasant, convenient, and on the whole, for this purpose, one of the safest of all anæsthetics. But now let me give you some little caution about the way in which you use it.

Various plans have been suggested for mixing chloroform, with alcohol, or ether, or both, in what is called the A.C.E. mixture, or even with eau de Cologne, in order to dilute it, under the impression that in this way it would be less likely to give rise to danger. I share the original view of Simpson, that chloroform pure is the best of all. If you attempt to mix it with fluids of different densities you get a composition of whose action you are ignorant. The best anæsthetic is chloroform diluted with air. I would make the suggestion that when patients insist—as they sometimes will—that they should have chloroform, the doctor should not attempt to pass off eau de Cologne, or other fragrant but deceptive vapours, on her; it sets up great excitement or anger, and so to speak, the last stage of that case is worse than the first. It never does to attempt to deceive the patient in this way, and you should tell her plainly if you have any objection to give the anæsthetic.

As to the mode of administration, the best plan is to pour a little of the chloroform—half a drachm or a drachm—on a handkerchief placed in a tumbler, and held at a sufficient distance from her face. As she passes into a state of anæsthesia the thing drops out of her hand. This is the simplest and best way of administering it.

I would like to draw your attention to two other points; one is that the vapour is very pungent, and is apt to blister the patient's face. You should therefore cover the lower part of the face with some lubricant, such as vaseline. The other is that the vapour of chloroform is a heavy one, and, therefore, if the patient is lying on her back, she very likely gets a bigger dose than you want her to have; keep her then on her side, so that she

inhales it sideways, with the tumbler placed over her mouth and nose.

The first dose should gradually put her in a state of unconsciousness, for if she shrinks away without taking enough she gets into a nervous hysterical state, whereas if the first dose does away with that so that she comes into a condition of anæsthesia, the trouble is over, and we continue the administrations at regular intervals during the labour. You should always see that she gets a fair dose to begin with.

The next point to which I would draw your attention is as to the time of administering. There are three stages of labour, and in any of them the question of an anæsthetic may arise. As to the first stage, I think we may say that chloroform should seldom be administered. We only give it where there is rigidity and where the pains seem to cause more suffering other than that actually involved in the dilatation of the os. There are, however, exceptional cases where in the first stage the labour pains are severe in proportion to the good they are doing; on such occasions a small dose can do no harm. But the second stage is, of course, the most proper time, and it is then that all women should have the option of an anæsthetic. Proceed to have the face lubricated and let her take two or three deep breaths of the chloroform, which in most women will cause a condition of sleep. The time when we give it is at the occurrence of pain, and we determine this by having the hand on the abdomen so as to notice the commencement of a contraction. As soon as it ceases and the patient's uterus begins to relax, it is withdrawn, and in this way it is alternately given and withdrawn during the rest of labour, until the birth of the child.

You will find that patients who have tasted the pleasures of chloroform will often ask for it before the pains come, and unless you keep the hand on the abdomen, you may be misled, and give it to them to their detriment. You may give it for an hour, or two hours or more without any risk to the patient, but with great comfort to her, comfort to yourself and to everybody concerned. The great point is to give it as soon as the pain comes on, and withdraw it the moment it is over. Just as the head is passing the perineum it is to be given rather more deeply.

Then with regard to the third stage, it should never, or almost never be administered; the only time is when we have to introduce the hand for the

removal of the placenta, or in cases of irregular contraction or morbid adhesion.

The difference between this state called anæsthesia and the deeper use of chloroform, which may be called chloroform narcosis, should be noted. In labour we never carry its use as far as the stage when stertorous breathing begins—the use of the anæsthetic to the surgical degree. The patient may even be able to converse during the intervals of the pains up to the end of the second stage. The smallness of the risk run is not due so much to any special immunity of the parturient woman, as to the small doses in which it is given. The great distinction lies between anæsthesia and narcosis. In one case the risk is infinitesimal, in the other it is the same as in ordinary general operations. I question whether in England, although every case of death from chloroform is published, there are really so many deaths from this cause as from people getting choked with beef or mutton. It always seems as if the number of these deaths was very large, but in comparison with the number of cases in which chloroform is administered the number is very small.

As to the quantity of chloroform you should use I may give you this rough gauge of it: about an ounce an hour—moistening with a few drops the handkerchief from time to time.

Finally, with regard to the large question of the deaths from chloroform, it is always well to remember the cases published many years ago by Simpson, from which it appeared that a certain number died before they had time to take it—cases which, had they taken it, would have been put down as deaths from chloroform, but which, being put on the table, died from nervous shock, before the commencement of the operation.

Chloroform Ointment for Rheumatic Pains. (*L'Union Med.*):

White Wax 3j
Lard 3iij

Melt together, and when the mixture is sufficiently cool, add—

Chloroform 3j

M. Sig. Spread on lint, and retain this in position by means of a bandage.

Gargle for Tonsillitis. (*Med. Record*):

R Chloral... .. gr.xv
Glycerini
Aquæ āā 3iss

M. Ft. garg.

CLINICAL REMARKS

ON

THE TREATMENT OF WOUNDS OF
CORNEA AND SCLEROTIC.

By SIMEON SNELL, F.R.O.S. Ed.,

Ophthalmic Surgeon to the Sheffield General Infirmary;
Lecturer on Ophthalmic Surgery, Medical School, Sheffield.

SEVERAL cases of wounds of the eyeball have recently been under observation, and therefore it appears to me that we may profitably employ our time in discussing some of the points raised in the treatment of such injuries. It will of course be quite impossible in the time at our disposal to enter at all fully into what is after all a rather large subject. By confining our attention, however, to wounds of the cornea and of the sclerotic, and avoiding the complications which may be associated with such injuries, we shall, I think, be able to say something which may not be devoid of interest about an important class of eye cases.

Cornea.—A clean incised wound of the cornea will, in many cases, heal straight away, just as is the case with a similar cut intentionally made through that structure for operation on the iris or lens. We occasionally see such cases. A man has been injured at some of the large works by some instrument or sharp piece of steel, causing a wound which heals at once. Such wounds are often seen after injuries by foreign bodies. The splinter of metal has passed through the cornea to be fixed in the interior of the globe, and the place of its passage through the cornea has closed at once, and is soon only represented by a faint line.

Generally, in the cases we meet with here, we find that the wound caused by the globe being struck by some fragment of iron or steel, or by the slipping of a knife, fork, or some instrument or tool, is larger than those just now alluded to, and there may, or may not, be evidence of a foreign body being present inside the eyeball. In these cases also, though part of the wound will show a tendency to close by correct apposition of its edges, it will often be found that the iris is either prolapsed or entangled in the lips of the injured cornea.

Your treatment of such a case will be guided a good deal by the length of time which has elapsed since the injury was inflicted. In a case seen quite recently after the accident it will often be feasible

to gently press back the iris into the anterior chamber with a spatula, and to insure its maintenance there by the instillation of Eserin or Atropin drops, according to the situation of the wound. It is possible that the use of these alone will result in the reduction of the prolapse, provided the iris is not tightly squeezed into the wound. Failing, however, to return the iris by a spatula or with the aid also of the drugs spoken of, it will be best to excise at once the prolapsed portion. These are the directions that successive house-surgeons have for a long time been accustomed to act upon, and the saving of a useful eye has very often been the result of their prompt treatment. In a recent injury it is possible, just as in an ordinary iridectomy, to draw out the iris, to cut it off, and for the remainder to float back, leaving the wound quite clear of it. In other cases the spatula will be required to free the angles of the wound from the iris. A case seen early, treated at once, provided there is no deeper injury, such as that of the lens, recovers well and generally quickly. Rest in bed, in the recumbent position, is advisable at first, and an important point is the use of Eserin or Atropin. It is perhaps a fairly safe guide as to which to use to bear in mind the situation of the wound. If it is peripheral, use Eserin, it will help to draw the iris away from becoming entangled. For the same reason, if the wound is more central, use Atropin, to keep the pupil from the wound so situated. It is not always possible to put into practice the line of treatment here indicated unless adopted soon after the accident. Occasionally it can be done a day or two afterwards, but generally the iris forms adhesions, and the tumour has increased in size by a membranous coating which has formed over it.

It may often be advisable, even at such a period, to endeavour to remove the portion of iris incarcerated in the wound; it will, however, be found that it is a difficult, and, in many cases, an impossible proceeding, to effectually clear the wound of all the iris and exudation which is around it and the edges of the wound. A boy recently here well illustrates some of these points. He is still an inmate of the infirmary. Several days before he was first seen he had caught the right eye against a door-latch and a ragged wound had resulted at the outer part of the cornea; it was vertical in direction and extended nearly the whole extent of the cornea. A large prolapse of iris occupied the greater part of this wound; the protuberance consisted partly of iris and in part, as just mentioned, of exudation,

which extended over the separated lips of the wounded cornea. An incision was made into this, and as much of the iris as could be seized with the forceps was cut away. This, however, proved to be little, as it was agglutinated in the wound, and only fragments were removed. This at once shows the difference between dealing with such a case and with a recent one. The after progress is also to be noted. The prolapse did not immediately disappear, as in the class of cases first mentioned, and has only done so after the lapse of some time and with the aid of Eserin drops and a compressive bandage. Another point remains to be mentioned. As already stated in a recent case of wounded cornea in which the iris has been caught and it has been deemed advisable to excise the prolapsed portion, the pupil often floats back; the wound is free and a linear scar may, in addition to the coloboma, be the most that results. If we turn again to our boy, it will be seen that though the tumour caused by the prolapsed iris has disappeared, a wide opacity of the cornea has resulted; that the pupil is drawn over to the inner side, and, what is worse, that the iris is still fixed in the wound, and, as a consequence, the eyeball is liable to certain destructive processes, such as secondary glaucoma, etc.

Sufficient has, I think, been said to show the importance of early treatment in these cases, and to draw your attention to the methods by which this may be carried out.

Sclerotic.—Wounds of this coat are always of serious moment, and your opinion as to the gravity of the case will be in accordance with the size and situation of the wound, and also as to whether or not vitreous has escaped, and if so, whether the loss has been large or not. In this class of injuries also, clean cut wounds, provided the edges are brought into proper apposition, heal well. It is of these we will speak at present. You will, from time to time, observe several of these cases here; many present themselves who have been injured at their work by a splinter of metal flying and striking the eye, and either remaining inside the globe or not; or, again, the bursting of a soda water bottle has caused a piece of glass to be projected against, and to have torn the sclerotic. There are many ways in which such an accident may occur.

But you will see many other causes in which, for the purpose of removing with the electro-magnet a splinter of iron or steel from the vitreous, an

incision has been made in the sclerotic, or the original wound too small has been enlarged. Or, again, the sclerotic has been punctured for the relief of a detached retina. It is of these cases, incised wounds and their treatment that I wish to speak now. I am satisfied that many eyes which, either from the extent of the wounds or from the great loss of vitreous, could fairly be considered as lost eyes, have not only recovered and have been excellent-looking organs, but have regained good vision which has lasted for many years.

Several cases of this kind are recorded in the articles* in which I first mentioned the mode of treatment which I purpose now bringing under your notice. Uniting the edges of the scleral aperture by sutures is a proceeding that has for long been adopted; in fact, treating a wound in the sclerotic just in the same way as if it were one situated in any other part of the body. Such a plan has, without doubt, in the hands of many led to very good results. We must, however, bear in mind several circumstances connected with suturing directly the sclerotic. Seizing the lips with forceps, and passing the needle through one edge of the wound and then the other, is a means very likely to lead to a further escape of vitreous; this we are desirous of avoiding. And more than this, the thread, or catgut if you prefer it, is after the wound is closed to all intents a foreign body in the interior of the globe for the two or three days it is allowed to remain *in situ*. It has, moreover, passed through the subjacent choroid and retina, and these tissues would again be disturbed when the suture came to be removed.

These, as well as others, are points that I have discussed in describing before now the proceeding which I wish to bring under your notice. It will suffice to say that they are avoided by not suturing the sclerotic *directly*, but by simply closing the wound by drawing together the edges of the conjunctival wound. It needs, perhaps, to have practised this method to understand how perfectly the lips of the wound are brought into close apposition by this means. The way to accomplish this is to have your fine silk or catgut threaded at each end, and then to pass a needle underneath the conjunctiva on either side and to bring the point out at some little distance away, so as to obtain a grip on the membrane. On drawing, then, the ends of the silk together, it will be seen that the

* "Ophthalmic Rev.," 1884, p. 300, and "Trans. Ophth. Society," vol. vii., p. 291.

opening in the sclera closes and the edges fall into perfect apposition. Sometimes a single suture suffices; frequently two are necessary, but if the wound be a large one three may be required. By this means your wound is practically converted into a subcutaneous one; you can remove the stitches without disturbance of the deeper structures. There has been no foreign body in the shape of the thread resident in the interior of the globe for two or three days, and the wound has been closed with much less risk of further escape of vitreous. It is sometimes necessary to press back the choroid with a spatula when closing the wound if it projects at all.

We have two cases here which illustrate this procedure. One is a youth aged 17; he came in May last, and was admitted for a large wound on the outer side of the sclerotic, rather in front of the equator, with a slight curve, the convexity being towards the cornea. When I saw him it was two days after the accident, which had occurred at his work; vitreous had without doubt been lost in some quantity, but at the time I saw him the wound was hardly gaping. It measured about $\frac{3}{8}$ of an inch in length. The tension of globe was decidedly reduced. It was determined, notwithstanding the delay, to try and save the eyeball by closing the sclerotic wound by conjunctival sutures. The result you see for yourselves. In appearance the eye is now as good as its fellow; the tension is normal; he has vision of $\frac{1}{8}$. If you examine his sclerotic you will find a scar, greyish looking, indicating the site of the wound. Another case is that of Charles F., aged 20. He was admitted on November 11th last. He had been struck whilst at work by a "chipping," the fragment weighing 5 grs. was sticking in the wound when he came here, and was removed by forceps. The wound was closed in the manner which has been described by drawing the conjunctival edges together. It was on the outer side of the right eye; was vertical in direction, and about $\frac{1}{2}$ of an inch long. You see now that he has a good-looking eye, and that vision = $\frac{6}{8}$. Another case I would mention. Some months ago, late one evening, a servant was brought to me by her master. It appeared that she had been to a cellar to fetch some soda water, and was carrying several bottles on a tray, when one of them exploded. She was struck by a fragment of the glass in the right eye. On making an examination it was at once evident that the globe was wounded; vitreous had

escaped in large quantity; was, indeed, still escaping on any movement of the eyeball. The wound in sclerotic was situated away from the cornea and the ciliary region in the lower quadrant; it sloped also somewhat outwards. It measured more than $\frac{1}{2}$ an inch in length. Cocaine was instilled, and the conjunctiva drawn together by two sutures of fine silk. The wound which, of course, had been ascertained to be clear of any glass, fell into perfect apposition. The result was all that could be desired. She not only recovered an eye which was as good-looking as the fellow, but the tension was normal, and vision equalled $\frac{6}{8}$, and she read the smallest type with ease.

In my papers to which reference has been made I have discussed several cases, and this mode of treating sclerotic wounds more in detail, but I think sufficient has here been said to show that it is a procedure that answers well for a class of cases which, to all appearance, would apparently more frequently merit removal of the globe as useless and probably harmful, than conservative measures at all. I am clear that in some of the instances which have been treated in the manner indicated a good result has been obtained, lasting especially in a case I have in my mind now for years, in which enucleation would have been at one time held to be the appropriate treatment. Conservative surgery has in the conduct of this class of injuries been signally successful.

Thus far, wounds of the sclerotic which can be called clean cut ones have only been treated of. Many that we meet with are quite the opposite, and are jagged or ragged. In some of these it may be worth while to try the conservative plan of closing the wound. If, however, the wound is very jagged, and at all of large size, with much escape of vitreous, and perhaps with hæmorrhage in the interior, sooner or later, even if the wound is allowed to heal, shrinking will take place, and possibly a painful and troublesome globe result. It is often the better plan, therefore to forestall all this by removing at once the globe; especially is this the case in the class of patients who attend here, because being generally men and the bread-winners, not only does this shorten the length of time they are necessarily away from work, but it must be remembered also that they are unable to give the time and care which are desirable, if an attempt is to be made to preserve an eyeball which may at any time be a source of danger to its fellow.

In bringing before you as I have done in this lecture, some points in the treatment of wounds of the eyeball, much has necessarily been omitted. No mention has been made of the important class of injuries affecting the ciliary region, and which are so prone to affect with sympathetic ophthalmia the other eye; these, together with gunshot injuries, and those associated with foreign bodies, must be reserved for a future lecture or lectures. I will conclude now by saying that ophthalmic surgery has not been slow to adopt the teachings as to the value of cleanliness and antiseptics, and it must be understood that regard has been had to such methods in the remarks which have been made. In the operations spoken of, Sublimate solution has generally been used; and Cocaine has been employed instead of a general anæsthetic.

THERAPEUTICAL NOTES AND FORMULÆ.

Vomiting of Pregnancy:

Fl. Ext. Hydrastis Canadensis, in 20 drop doses four times a day, has proved very successful in the Vomiting of Pregnancy. It lowers the blood pressure, quiets the nervous centres, and diminishes the blood supply to the uterus.

(Federow, *Times and Register*.)

Turpentine Vapour as an Inhalation in Diphtheria:

Dr. Wisseng has been using Ol. Terebinthinæ for Diphtheria with most gratifying results. His method is as follows:—In several places about the sick room he places vessels, with broad superficial area, half full of boiling water, and then pours the oil on the surface of the water, by this means the room is filled day and night with turpentine vapour. In addition he causes the patient to inhale from a Bronchitic kettle the vapour of the oil for a quarter of an hour every two or three hours.

(*Deut. Med. Zeit.*)

Digitalis in Pneumonia:

Dr. R. I. Bond writes that he has never failed to obtain the desired result from the use of Digitalis in Pneumonia, if given after the following method:

Begin with a medium dose, the fluid extract

being my preference, and gradually increase until the pulse is reduced to a little below normal, then decrease until the normal pulsation returns, and hold it at that until all expectoration subsides, then gradually decrease until the dose is so small that you can safely stop its administration, and convalescence by this time being quite advanced. I will probably be asked what are its effects outside of those upon the heart. 1st. It is the only permanent antipyretic; 2nd. The only reliable sedative; 3rd. The only effectual means of rapidly controlling the flow of blood to the inflamed lung, hence it soon checks expectoration by rendering it unnecessary; and 4th. It has the diuretic effect which is needed in most cases of pneumonia. The dose is to be measured by the amount of obstruction in the circulation through the lung. I have found it necessary to increase the dose to fifteen drops of the fluid extract every four hours to control the heart's beat in adults where there was extensive obstruction in the lung. I have given to a child four years old four drops every three hours with nothing but the desired effect. This was in a case of capillary bronchitis, in which trouble it is quite as efficient as in pneumonia. A favourite combination is this:

R. Aromatic Spirits of Ammonia ʒss
Fluid Extract of Digitalis ʒiiss
Glycerine q.s. ad ʒiv

M. Sig. Teaspoonful every three or four hours, to be increased as the case may require.—(*Med. Rec.*)

For External Hæmorrhoids. (*Wiener Med. Pr.—Med. News*):

R. Iodoformi ... gr.v
Ext. Belladonnæ ... gr.x
Chrysarobin. ... gr. 1 1/4
Vaselin. ... ʒj

M. Ft. unguent. To be applied after first washing the parts with an antiseptic wash.

For Internal Hæmorrhoids. (*Wiener Med. Pr.—Med. News*):

R. Ext. Belladonnæ ... gr. 1/2
Iodoform ... gr. 1/2
Chrysarobin. ... gr.j
Ol. Theobromæ ... ʒss
Glycerini ... q.s

M. Ft. supposit.

THE CLINICAL JOURNAL.

WEDNESDAY, FEBRUARY 22, 1893.

A CLINICAL LECTURE

ON

THE MANAGEMENT OF CHRONIC HEART DISEASE.

Delivered at University College Hospital, Feb. 7th, 1893.

By G. V. POORE, M.D., F.R.C.P.,

Physician to the Hospital.

IN dealing with sufferers from Chronic Heart Disease we must not allow the fact that the lesions of the valves, due to endocarditis, are certainly permanent, to take too strong a hold of our minds. Whether the valvular lesions be permanent or otherwise, there is nothing more certain than the fluctuations which take place in the condition of sufferers from chronic heart disease. There are many such who may be spoken of as among the permanent clients of this and of every hospital. They are admitted in a state of great suffering and danger, during their stay in hospital they improve, and recover sufficiently to go out and pursue their occupations for a time; but after a few months we are tolerably sure to see them back again, and so these sufferers spend their lives in a painful endeavour to fight the battle of life with damaged organs.

Let us take the common case of a sufferer from mitral disease with thickening and deformity of the valves permitting regurgitation through the mitral orifice with each systole of the ventricle. With this condition of the mitral there is often some thickening of the aortic valves as well, which offers obstruction, perhaps slight, to the outflow of the blood into the aorta.

The suffering of the patient in this condition necessarily depends upon the amount of valvular disease, and the amount of work which they have to do. There are many patients of this class engaged in quiet pursuits who go on for years, and manage to do a large amount of useful work. As long as they are not hurried, and are able to "take their time," they do very well; but a little over-exertion, or any failure of general health, is a severe trial to them, and often brings their life into jeopardy.

In these cases there is always an accentuation

of the second sound over the pulmonary cartilage indicating increased tension in the pulmonary artery. This is the key to the danger as indicating that the encumbered left ventricle is throwing extra strain upon the lungs and pulmonary artery. The failure of the left ventricle to completely propel its contents in the proper direction, necessarily leads to an engorgement of the lung, and increased pressure on the right side of the heart and the venous system generally.

We must never fail to regard the heart and lungs as one organ, and to remember that the lungs are in reality placed between the two halves of the heart. We must bear in mind that grave damage to the circulatory part of this compound organ must affect the pulmonary part, and *vice versa*.

I want especially to say a few words on the hygienic management of patients with chronic heart disease, and for this purpose I will select, out of several cases which have lately been in my wards, one which, in particular, has given us proof of the good results of such management.

W. G., æt. 41, bricklayer, admitted June 1st, 1892. Had scarlet fever fourteen years ago. Works hard, and is a good deal exposed to weather; drinks moderately, and has had syphilis. About four years ago he first noticed that his legs swelled, and that he was very short of breath on exertion. At this time he was an out-patient of the Middlesex Hospital. Two years ago he was a patient at the Royal Free Hospital for the same condition, so that when here he was paying his third visit to a hospital in four years, for shortness of breath and swelled legs.

The patient, on admission, complained of swelling of the legs and abdomen, shortness of breath and a difficulty of passing water, the urine only amounting to half a pint in the twenty-four hours. This condition of things began a month previously, and had got steadily worse.

The physical examination of the patient revealed the following facts: marked œdema of the legs, scrotum, and trunk, with slight indications of fluid in the peritoneal cavity. The lungs were big, slightly emphysematous, and overlapped the heart, so that the size of the heart could not with certainty be made out. There was a loud mitral murmur. The heart-sounds were somewhat feeble.

The pulse rather hard. The urine was scanty (less than a pint in 24 hours), high coloured, sp. gr. 1022, and contained a considerable trace of albumen, but no casts. The tongue was flabby and slightly furred.

Here, then, we have an ordinary typical case of chronic heart disease, with slight emphysema of the lungs, and, probably, very slight chronic kidney trouble as well. This is the third attack, and what we have to ask is, Why do these attacks recur? Why, if they be due to heart disease, do they get practically well? When one gets a complete circle of symptoms, as in this case, it is often difficult to say what part of the circle is most important, but I should look to the varying conditions of the left ventricle as most likely to afford an explanation of the trouble. We have, probably, some slight thickening of the mitral valve, caused by endocarditis, occurring as a complication of scarlet fever fourteen years ago. This condition does not seem sufficient to cause him any annoyance under ordinary circumstances. If, however, from any cause, the left ventricle dilates, then the mitral incompetency becomes serious, the tension in the pulmonary artery rises, the right side of the heart dilates, and the venous system throughout the body becomes engorged.

The left ventricle will dilate (1) from weakening of the cardiac muscle, so that it becomes incapable of withstanding its normal amount of internal pressure. This might arise from anæmia, the result of insufficient food or debauchery, from fatty degeneration, or from the weakening effect of high body temperature, the result of a febrile attack such, for example, as influenza.

(2) The ventricle may dilate in consequence of over-exertion and excessive effort in the course of his ordinary occupation, or as the result of some accidental occurrence necessitating effort.

(3) The ventricle may dilate in consequence of obstruction to the outflow of blood, either by a narrowing of the aorta or by a rise in the tension of the systemic arterial system generally, an occurrence which is very liable to take place in those who have a gouty condition of the kidneys.

As our main object in the treatment of such cases is to get the dilated ventricle to resume its normal dimensions, it becomes very necessary to bear in mind the possible causes which may determine its dilatations.

When we look at a patient such as the one with which we are dealing, we have to remember that

the outward condition is the evidence of the inward condition. The encumbered circulation gives us the cedema of the lower limbs and trunk. This cedema, although most marked in the dependent parts, is due to a central cause, and as consequence every organ in the body is more or less congested—lungs, stomach and intestines, liver, kidneys and brain. As a result of this every organ performs its duty imperfectly. There are difficulties of primary digestion, metabolism, defæcation, urination, and at night when the head is somewhat lowered in position the patient wanders instead of enjoying sound sleep. Evidence of this inefficient action on the part of the kidneys is afforded by the urine, which is scanty and slightly albuminous. In the state of the kidneys we have evidence of the vicious circle in which a patient may move. The condition of the heart causes an engorgement of the kidney, the engorgement of the kidney and the faulty purging of the blood of the products of nitrogenous metabolism increases arterial tension, and this in its turn increases the tendency of the left ventricle to dilate. Do not let us forget that, in the general venous engorgement, the heart does not escape, and that its nutrition being interfered with the tendency to dilate increases equally with the active causes of dilatation.

There is room for doubt in this case as to whether the condition of the urine is or is not entirely secondary to the heart disease. The main reason for leading me to believe that there is a chronic kidney change, independent of the heart trouble, is the fact that the dropsy is rather out of proportion, if one may say so, to the other symptoms; and this belief, that the kidneys are the seat of independent trouble, is rather strengthened by the history of scarlet fever as a very probable cause of chronic kidney mischief, and by the fact that when the patient left the hospital there was still a slight trace of albumen in the urine. If, however, there be a chronic induration of the kidney apart from the heart-trouble it must be very slight.

In the treatment of such a case and in the endeavour to bring about a diminution in the size of the left ventricle, clearly the first indication is rest as absolute as possible. The circumstances of the patient must be such that the heart has only the internal work of the body to grapple with, and to this end he must be put to bed and ordered to remain there. I think it is most important that the patient should remain in bed during the whole

24 hours, for if he be allowed to get up and make any effort which materially quickens the action of the heart, he may undo in ten minutes the good which may have been gained during the previous hours of rest. Nothing is so damaging to a weakened heart as any muscular act accompanied by "effort," *i.e.*, an act which necessitates the fixation of the thorax and the suspension of the respiratory act. When we see a man strain (whether it be at a massive act, such as lifting a sack of flour, or a trivial act such as cracking a walnut with the fingers), and watch the face get purple and the veins stand up upon the forehead, we cannot fail to be impressed with the strain which is put upon the organs of circulation by the act. No person with chronic heart disease, especially if he be under medical treatment, is likely to attempt any massive acts involving strain, but I must remind you that among minor acts which often necessitate effort, is the act of defæcation, and it becomes very important to protect the patient from the evils of straining at stool, and to keep the bowels moderately relaxed by the aid of gentle purgatives.

If the heart is to have the greatest amount of rest attainable, the patient must be kept comfortably warm and be fed upon a sufficiency of food, while every precaution is taken against giving any excess. If the temperature of the body be not artificially maintained in cold weather, more food must be taken, and the more food that is taken, the more work the heart has to do. The digestive and assimilative powers are both lowered, and it becomes necessary to give food in the most digestible form. The patient must be put upon a strict spoon diet, but not too fluid, and it may be advisable to use peptonized food for a time.

In such cases as these it is sometimes difficult in private practice to prevent injudicious friends from stuffing the patient with turtle soup, wines, and various delicacies, in the mistaken belief that he can be "fed up." No greater mistake can be made, for not only is the patient placed in circumstances which necessitate a minimum of food, but the engorged viscera are barely capable of dealing with that minimum. Nothing is so prone to produce palpitation of the heart, even in health, as the administration of an excess of food. If the food lie undigested in the stomach, it may produce irritation and reflex palpitation, or if it decompose and undergo fermentation, it may produce flatus, which will not only set up reflex palpitation, but

direct encumbrance of the heart as well from distension of the stomach. Or if it be digested and absorbed, and if elimination of the waste by the kidneys do not keep pace with absorption, we get the blood overcharged, increased tension in the systemic arteries, and palpitation of the heart as a consequence. I am inclined to think that, on the whole, excess of food does most harm if it be absorbed, and that the midnight palpitation of gouty subjects is, broadly speaking, due to the fact that eliminative processes do not keep pace with absorption.

I think that as a rule the best guide for the administration of food is the patient's appetite, and that if there be, as often is the case, a purple furred tongue and a disagreeable taste in the mouth, it is unwise to push the feeding. While the patient is in bed endeavouring to get the physiological rest for his heart, he must have nothing but spoon food, which should be given in small quantities and at frequent intervals. The bowels must receive careful attention, and if the urine be scanty and albuminous, a rather free flux from the bowel will do nothing but good. Anything like violent purgation must be avoided, but it must also be ever present in the mind that constipation is sufficient *per se*, to produce functional disturbance of the heart, and that in the treatment of chronic heart disease the care of the bowels is all-important.

But to resume the history of the case with which we are dealing. He was admitted with cardiac dropsy, a mitral murmur, and scanty albuminous urine on June 1st, and he was put to bed, and placed on a spoon diet. In addition to this, his prescription paper will show you that he had one dose, and one dose only, of purgative medicine, and not a single dose of any cardiac tonic or any other drug.

What was the result? Perhaps this is best answered by a reference to the urine chart, which shows that on the first day of admission the amount passed was 17 oz., and the next day only 20 oz. After this the quantity gradually increased, until, some ten days after admission, it amounted to 168 oz. As the quantity rose the specific gravity fell, and with the increase of the flow of urine the dropsy gradually disappeared. The urinary flow having reached a maximum, gradually declined again, until the physiological quantity of 48 oz. in the twenty-four hours was reached. All the other symptoms improved, and on June 22nd, on which day the patient was discharged, the mitral murmur was no longer audible, the only sign of dropsy was a

slight pitting on firm pressure over the sacrum, and the urine was normal in amount and specific gravity, and contained only a very faint trace of albumen.

This patient was practically cured; and if his condition of life had been such as to allow of his making health his main object in this world, one would have been justified in predicting still further improvement in the course of time. As it is, one must, I fear, predict that sooner or later he will reappear here or elsewhere with a recrudescence of his chronic trouble.

The case is, as regards symptoms and physical signs, a very ordinary one, and yet I have thought it advisable to bring it very specially to your notice as being worthy of more than ordinary attention.

Why did the man, who was admitted suffering from a considerable suppression of urine, manifest such copious diuresis after being a few days in bed? The partial suppression of urine was due to the venous engorgement of the kidneys, the result of his dilated left ventricle, and the regurgitation through the mitral orifice, causing increased tension in the veins throughout the body, inclusive of those of the kidneys.

When the heart was put to rest, and had only the internal work of the body to do, the strain on the left ventricle diminished, the blood was driven forwards into the capillaries with hourly increasing force, and driven backwards into the auricle with a force which hourly diminished. Thus the arterial tension was maintained while the venous tension diminished, and the kidneys were soon able to perform their functions in a normal manner.

But, you will say, the function of the kidneys became more than normal, it was excessive, for the diuresis was extreme. This is true, and the cause for it is to be found in the large amount of anasarca—the large quantity of watery fluid which had to be removed from the body.

Dropsical fluids vary much in specific gravity; those which are caused by inflammatory processes, as in pleurisy and peritonitis, have a specific gravity of 1018 or higher (Halliburton), while non-inflammatory transudations have a specific gravity of 1015 or lower (Halliburton), and of these latter the fluid of oedema in cardiac dropsy has the lowest specific gravity (1010). With enough fluid exuded into his cellular tissue to cause marked oedema of the legs and trunk, it is not to be wondered at that when the kidneys became sufficiently disengorged to perform their functions that the diuresis became excessive.

Now in cases like the one with which we are dealing, we commonly follow a routine; and when we are confronted with a case of cardiac dropsy we prescribe, almost automatically, one of the common cardiac tonics and diuretics, such as Digitalis, or Strophanthus, or Citrate of Caffee. If either of these drugs or any other drug having a reputation as a diuretic, had been given, we should, perhaps, have been quite ready to ascribe all the improvement which took place to the drug which had been administered, and we should have said that, certainly, it was a powerful and valuable remedy. But the only cardiac tonic and diuretic which this patient had was rest—rest which was afforded by his bed and his diet.

In clinical therapeutics it is always impossible to get rid of the *post hoc* fallacy. Of all therapeutic agents, rest is probably the most important. This patient's organs were unable to functionise normally, because they were being overpressed; we gave them rest, and their function was resumed.

Tonics and stimulants are therapeutic agents, which are given with the object of, so to say, spurring an organ to make increased efforts, but we must remember that "action and reaction are equal and contrary," and that after stimulation there is the reaction of depression. It is, sometimes, very desirable and very useful to give stimulants in order to enable a patient to tide over a crisis; but you must remember that, as the spurs alone will not keep a horse going, unless there be intervals for rest and nourishment, so, cardiac tonics are of no permanent use unless it be found possible to give the organ rest as well.

It very often happens that a few doses of Digitalis will do great good by enabling a heart to systolise with sufficient energy to commence grappling with its difficulties, but it is my invariable custom, unless the patient's condition is one of urgency and danger, to delay the administration of cardiac tonics until a few days' rest have enabled us to see whether or no the organ has sufficient muscular power to overcome the obstacles which are hindering it without artificial help. If, as in the present case, the heart recovers with rest alone, I am sure it is a great gain for the patient. No one is more conscious than I of the great use of drugs in cases of heart disease, but I am sure that it is well to do without them if such a course be possible.

A few words may be said as to the general

advice which should be given to sufferers from heart disease.

There be many such who can scarcely be said to need such advice, their condition being one of chronic dyspnoea which makes exertion or excess of any kind an impossibility. There are, however, many persons with damaged hearts who are either quite ignorant of the fact, or who suffer so little inconvenience that they might, if properly managed, remain practically unconscious of their trouble.

Take the common case of a young man with a mitral systolic murmur. He is brought to me, possibly, because he is "out of sorts," and in the course of examination the mitral murmur is discovered. Do not on any account tell such a patient bluntly that he has "heart disease." Your patient does not understand pathology, and the word "heart disease" is in his mind associated with sudden death and coroners' inquests. The shock of hearing such intelligence may do him definite harm, and certainly the after moral effects are likely to be serious. You must convey to him the idea that his circulatory organs have been a little overstrained, and you must impress upon him that if he be careful of himself he will probably practically recover.

The main indication in all these cases is to regulate the pace of living by the condition of the damaged organ.

Everything which involves hurry or effort is to be avoided. Moderate exercise does nothing but good, but such patients ought never to work themselves into a state of "breathlessness" or anything approaching it, and I think that, for such, all games and exercises involving competition are to be absolutely disallowed. Gentle rowing will do good, but anything in the shape of boat-racing is most harmful. Such patients must never play "matches" of any kind, because, when one is associated with others in games and exercises one is in honour bound to make every effort, and put forth one's whole strength, and, it must be remembered, that a single serious muscular effort may so strain a damaged heart that the patient, instead of being practically unconscious of his condition, may find himself permanently short of breath.

For sufferers such as these, competitions of all kinds, both mental and physical, should be disallowed.

The great danger which is run by a sufferer from mitral disease is from cold. The lungs are permanently congested, which makes them very

susceptible to the effects of cold, and an attack of bronchitis is sure to overstrain the right side of the heart by increasing the already slight difficulties of the pulmonary circulation. A sufferer from mitral disease may be unconscious of his trouble, but after "catching cold" he may come to us complaining of puffiness about the feet and breathlessness, which shows conclusively that the right side of his heart has been overstrained.

Sufferers from mitral disease seldom die suddenly. Their progress downhill is gradual, and lung complications are generally very active in bringing about the fatal result. Although sudden death is not common in mitral disease, the tenure of life is very uncertain, because the patients have little power of resisting common ailments. "Colds" are very apt, in these cases, to "attack the lungs," and it goes hard with them when they fall victims to influenza or similar troubles, which usually cause small inconvenience to the physically sound. I am accustomed to regard sufferers from mitral disease as ineligible for life assurance.

The wealthy sufferer from chronic heart disease should live in a place where fresh air and gentle exercise may be got without climbing hills, and he should live upon the ground floor of the house in order that the fatigue of going upstairs may be avoided.

No two cases of chronic heart disease are precisely alike, for, it is evident, that with the possibility of obstruction or regurgitation, or both, at each of four orifices, combined with many different conditions of the lungs, the permutations and commutations become almost infinite.

Perhaps the most incapacitating form of chronic heart disease is mitral obstruction, for not only does it produce serious engorgement of the lung, but there is a failure to supply the left ventricle with its proper quantity of blood, and the systemic arteries are starved, while the pulmonary vessels are gorged. Sufferers from this disease are always weakly and breathless.

Simple aortic regurgitation, however, although liable to terminate suddenly, often incapacitates the patient singularly little. We have two extreme cases in the wards now, one of whom has followed the occupation of a horse cleaner, and the other that of a tin plate worker, both laborious employments involving much muscular exertion, up to the time of admission. I can also call to mind the case of a young man suffering from aortic incom-

petence, who used to come occasionally to my out-patient room, and who earned his living as an acrobat upon the stage. The left ventricle readily hypertrophies, and in this way compensates for the regurgitation, and so long as the mitral valve remains fairly competent the patients do not complain of breathlessness, there is no œdema, and they look hard and healthy in the face. These patients are, as you are aware, in danger of sudden death, and their lives are absolutely uninsurable.

A CLINICAL LECTURE

ON

A Case of Xanthelasma of the Eyelids, Three Cases of Epithelioma of the Tongue, and a Case of Pityriasis Rubra.

Delivered at the Cleveland Street Sick Asylum,
in connection with the London Post-Graduate Course,
February 2nd, 1893, by

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GENTLEMEN,—My lecture to-day will be a demonstration of various cases in the wards of the hospital, with some remarks on each of them.

The first case is that of an old Irish woman, who is the subject of a peculiar form of Xanthelasma of the Eyelids. I will presume that my auditors are well acquainted with the ordinary phenomena of xanthelasma. It may be well, however, to state briefly that there are several forms of it, allied, but by no means identical. In one form it occurs as an almost acute eruption, developing with great rapidity over the whole surface of the body, and often in connection with diabetes. In this, perhaps the rarest of all forms, the yellow papules may disappear spontaneously: in this variety it is not usual to have any jaundice, but in liability to sick headaches and the like, there is usually evidence of proneness to functional disturbance of the liver. We have another form, that specially described by Dr. Addison and Dr. Gull, in which the disease is general, of very slow development, and persistent. In these cases there is always either a history of previous jaundice, or, as is more common, a permanent condition of it. Lastly, we have by far

the most common forms of xanthelasma, those originally described by Rayer, in which the condition is from first to last restricted to the eyelids. Of these, the patient who is before us offers a very interesting example. There is, as I shall hope to convince you, a bond of connection between the different forms of the disease which I have mentioned, although in detail they diverge widely.

It curiously happens that in some cases xanthelasma of the eyelids is attended by local changes quite distinct from those of the ordinary yellow, wash-leather patch. Thus, occasionally, instead of the yellow patches a number of sebaceous glands enlarge, and acquire black-ended plugs of sebum, the ordinary comedo. Groups of comedones, arranged exactly in the position of the ordinary xanthelasmic patch, and occurring under exactly the same conditions of age, etc., may occasionally be seen, and at other times a sebaceous gland, the orifice of which has become occluded, may become distended, and being flattened down, may somewhat resemble at first sight a xanthelasmic spot. There is at present an old woman in a workhouse in Yorkshire, in whom this comedonous condition is strikingly seen, to the entire exclusion of anything resembling xanthelasma.* More commonly, however, when xanthelasma is complicated by disease of sebaceous glands, the several conditions are seen together. Now, the chief interest of the case before us consists in its being an example of this complication. What we know as the "xanthelasmic positions" are the parts of the eyelids above and below the inner canthus. In these you will see in the present case that there are both yellow patches and conspicuous black points. There are also two classes of yellow patch, one soft and thin, and the other more solid. It would be perfectly easy to eject from these glands plugs of sebaceous matter, and if this were done we should have removed, in this instance, the greater part of the conspicuous changes. We should not, however, have removed all, for the true xanthelasma-patch infiltrates the corium, and, of course, cannot be removed by squeezing. You will observe in this patient, further, that a crescentic portion of skin curving round the inner canthus, in the xanthelasma district, is deeply pigmented. In some cases of xanthelasma of the eyelids the sudoriporous glands

* Of this woman I possess a good portrait.

are involved instead of, or in addition to, the sebaceous ones. In these instances, a series of cysts containing transparent fluid are developed in the xanthelasma positions. I have figured, in my *Atlas of Clinical Illustrations*, several examples of this: it is very rare, and our present patient shows none of it.

As regards the meaning of xanthelasma of the eyelids, I may say that it is what we know as a retrospective symptom. It looks backward, and discloses to us a patient's antecedents, rather than anything at present peculiar in the state of the general health. In a vast majority of instances, it implies that at some time or other the patient has been liable to repeated functional disturbances of the liver, and that these have been attended by temporary variations in the pigmentation of his eyelids. He, or she, has, in fact, been apt to become "dark round the eyes" when out of health. This is almost the invariable history when men are the subjects of this curious condition. In women it often happens that the disturbance of the liver is denied, and in them it is not at all improbable that menstruation or pregnancy may have been the means of causing similar changes in the conditions of the eyelids. At any rate I am sure that this is the fact, that those who in early life have been liable, from whatever cause, to become dark about the eyes, are in middle life, or when senility is approaching, prone to develop xanthelasma patches. It is a curious fact, of which I can give you no sort of explanation, that these patches are always largest on the left side, and are usually present for a year or two on the left before the right eyelids are affected. Now, our patient well illustrates all that I have said. She is a woman, and she is old. She has borne many children, and although she denies that she was ever a bilious subject, she admits that in early life she had a bad attack of jaundice. As you will see, the patches are far larger round the left inner canthus than they are on the right.

Before quite leaving this subject, I may say to you as regards treatment, that if this old woman cared anything about her patches, nothing would be easier than to remove them. In younger patients, and in those under other conditions of life, this object is often desired. I have repeatedly cut such patches away, and the skin of the part being loose and thin, it easily heals without leaving a scar. As a rule, no re-development of the patches is observed.

EPITHELIOMA OF THE TONGUE.

I have next to ask your attention to a subject, not, in a certain sense, of more interest, but of infinitely more importance. Mr. Hopkins has provided for our demonstration two old men who are the subjects of Cancer of the Tongue in an advanced stage; and I have myself persuaded a private patient to come, in order that, in contrast with them, you might see the very earliest stage of this terrible disease. We will take this last case first. The patient, as you see, is under middle-age; he is only 38. I saw him four years ago, for tertiary syphilitic sores on his legs, and for sores on his tongue, which were then syphilitic. The treatment prescribed soon cured his legs, and they have remained quite well. Since then he has had a great deal of treatment for his tongue, not under my own observation, as he lives at a distance in the country; and he now comes back to me with the report that nothing will cure it. It has, in fact, ceased to be in any degree amenable to the treatment for syphilis, and is just passing into cancer. You will observe that the condition is that of a low papillary growth along the right side of the tongue near to its tip. At some parts the papillæ are distinctly wart-like, and foliated at their ends: these are not dangerous. Close to them, however, at two different places, the papillæ are low, very small, and are grouped in a little disc, which is distinctly hard at its base. It is this latter condition that alarms me, for I have seen it over and over again as the first stage of epithelial cancer. I have, therefore, advised the patient that he should no longer continue to run a risk which is one of the most fearful that a man can encounter, but that he should have the diseased portions of his tongue at once freely excised. I beg you to note how slight the conditions are which excite our alarm. There is no ugly ulcer, with hardened edges and an unhealthy surface, such as our forefathers were wont to wait for before they diagnosed cancer; nor, above all, are there any enlarged lymphatic glands, a condition which used to be regarded as the symptom which clinched the diagnosis, but which really proved in nineteen cases out of twenty, that the case had been allowed to advance beyond hope of relief from surgery.

We will dismiss this patient, and I will show you the condition of the other two, and then, having sent them also away, I will venture a few general remarks on the subject.

The youngest of these two men says that he is only 56, but his wan and miserable appearance might have led us to suspect that he was ten years older: the other man, who is hale and hearty-looking, gives his age as 70. They both of them assert that it is not more than three or four months since the disease in the tongue began, and I venture to predict, what is much to be hoped, that neither of them will live more than three or four months longer. You will see from this statement how acute a disease epithelial cancer of the tongue is. It does not wait for the surgeon to try the effect of drugs or of mouth-washes before he makes up his mind as to what he is dealing with. It is an error of the very gravest importance to imagine that epithelial cancer is a disease of minor malignancy and slow in its progress. When it attacks the tongue it is, indeed, one of the most rapidly fatal forms of cancer with which we have to deal. In neither of these two men, although the history in both is so short, is there the slightest possibility of doing any good by an operation. In both the base of the tongue is glued to the floor of the mouth, and in both there are enlarged lymphatic glands in all directions. I will ask your attention to the precise position of the latter, as both these cases, being remarkably alike, allow us an excellent opportunity for examining them. In both there are clusters of glands matted together in the floor of the mouth, others in the neck, under the anterior edge of the sterno-cleido-mastoid, and yet others at the back of the neck at the posterior edge of the same muscle. These three positions are those which may, any one alone, or all at the same time, be affected in cancer of the tongue. The commonest position of all is the floor of the mouth; next to it the front of the neck; and, lastly, the back of the neck. I have known several cases, however, in which the floor of the mouth escaped entirely, and at least two in which the only tumours which were ever developed, were placed just behind and under the mastoid process itself. When once the glands have become implicated the progress of the case is usually very rapid indeed. Abscesses form and break, huge fungating masses are developed, and the patient's condition becomes truly miserable. It is in but very few cases that the extirpation of diseased glands is a permanently successful measure. In but too many instances, as in the patients you have seen, the implication is, almost from the first, so extensive that no operation can be thought of. To be really and

permanently a success, an operation for cancer of the tongue must then be done before the lymphatics are involved. Some of you will perhaps be inclined to ask doubtingly, whether there are really any permanent successes after excision of the tongue for cancer. To this I reply unhesitatingly, that there are many. I have myself many patients living now, six, eight, or ten years after removal of the tongue, or part of it, for cancer, and in whom therefore we may fairly regard the cure as permanent. I have no doubt that other operating surgeons could tell you the same story. I have two, but I am sorry to say only two, who have passed a period of four years since lymphatic glands which had become implicated were excised. Many of my operations have been done in very early stages; and in many, therefore, only a part, perhaps only a small part, of the tongue required removal. In every instance, however, the diagnosis has been confirmed either by the microscope or by the sequel of the case. It has curiously happened that in two or three cases in which those who examined the specimens for me with the microscope declined to admit that the disease which I had diagnosed as cancer, was such, the subsequent implication of the lymphatics removed all doubts as to its nature.

You will be aware that there is a wide-spread belief, and that it is borne out by statistics that cancer is on the increase. I am glad to believe that it is so, for although the mortality of cancer is greater, its fatality is less, and is likely to diminish year by year. The mortality from cancer,—that is, the ratio of deaths in proportion to population—will and must increase with improved sanitation; for cancer is a senile disease, and the greater the proportion who attain senility, the larger will be the number who die from it. This result is beyond the control of man—it is inevitable. The fatality of cancer, however,—that is the ratio of deaths to the number of those who suffer from the disease,—is, I have no doubt, less and less every year. You will see at once that this is not a question which can possibly be submitted to statistics, and I am obliged to bear out my assertion by reference to individual experience. I speak of all forms of cancer which are within reach of the knife, and I unhesitatingly assert of them—taking as chief members of the group cancer of the breast, of the lip, of the tongue, and of the genitals in both sexes—that the advance of the doctrines of the local origin, and the pre-cancerous stage; and the

general spread of diagnostic skill, are the means every year of saving many lives. What little share I have myself taken in the advocacy of these doctrines, and in the spread of this knowledge, is to me a source of the most lively satisfaction. If you should think that I have spoken in any way boastfully to-day, I beg you to believe that I have done it only with a wish to impress on your minds, in a manner as forcible as possible, the creed which will be the means of saving your patients' lives. Accept the doctrine of the pre-cancerous stage of cancer; realise that cancer is always for a time a local disease, and that it is your duty to recognise it in this stage, and to remove it with the utmost promptitude and freedom.

A. CASE OF PITYRIASIS RUBRA.

Our next case is that of a man whose skin, from the crown of his head to the sole of his foot, is in a state of inflammation with peeling of the epidermis. This process of peeling, for it is more than desquamation, has come to an end on many parts, more particularly on those which were first attacked by the disease, but it is still in full vigour on those which have been more recently affected. His face and the greater part of his trunk are simply red, with a few thin flakes of epidermis here and there, but on his hands and feet the peeling is in large, thick, coherent portions, like paper, and on his fingers almost like a thin leather glove. On his digits the process ends at the roots of the nails, and the latter, although discoloured, are not thickened or broken, nor is there any material accumulation of epidermis under them; their fate is probably yet to come; wait a few weeks, and they will be much more seriously involved. That they are not so at present, we may take as proof that the disease has but just reached them, and as a consequence that it is a form of dermatitis which has travelled by contagion of continuity from more distant parts. The man, as you will see, is stout, florid and robust looking. His age, he tells us, is 56. The history is that his attack of dermatitis began eighteen days before last Christmas, and we have now reached the 2nd of February. It began by some red patches on his arms, he does not remember which, and for a few days he thought but little of it. There was a good deal of itching and burning, and he rubbed and scratched freely. Soon the whole skin became irritable, and patches of a similar kind showed themselves on various parts. I have no precise information as to the

exact mode of development in this case, for the man was not then under skilled observation; but from what I have seen of many other cases, I have no doubt that his patches were for a time scattered and discrete, and that it was only by degrees that they coalesced; and involved the whole surface of the skin, in the manner which you see to-day. Now, when erysipelas spreads over the whole surface, as in certain exceptional cases it may do, it does so for the most part by a spreading edge, which gradually creeps forward from limb to limb, and you only exceptionally observe the development of new patches at a distance from the parent one. In the present case, although there is good reason to believe that a dermatitis, local at first, became universal in the end by means of its own contagion, the mode of spreading was different from that of erysipelas. The chief difference was that of the formation of new patches at a distance from the original one, and located with an appearance of symmetry which might easily mislead us into a belief that the eruption, like a specific exanthem, was being produced by means of poisoned blood. I submit to you, however, that its mode of production was not such, and that, despite deceptive appearances, we have, after all, to deal only with a surface-contagion.

My hypothesis is that the man spread the disease by his own fingers; his skin was irritable, and he scratched first one place and then another, and wherever he scratched there he implanted the germs of the disease. The individual patches thus originated,—and there were hundreds of them,—spread like erysipelas by contagion of continuity, and thus they enlarged in size, became confluent, and finally involved the entire surface. Now, if in erysipelas the patient could bear to scratch the inflamed surface, I have little doubt that he would succeed in transferring germs to other parts, and thus re-inoculating himself. The burning pain, which attends it, however, for the most part entirely precludes any touching with the fingers, and it is not a disease which is attended by general itching of the healthy parts of the surface. Thus, then, we seem to arrive at the suggestion that erysipelas and the disease before us possess in common the property of being virulently contagious, whilst they differ in this, amongst other points, that the one is attended by itching which provokes scratching, and the other by pain which precludes it.

I do not know that I have much more to tell

you, in description of this patient's present attack. You see for yourselves that he is as red as a lobster, and, as I have already said, that on some parts the disease is coming towards an end, and that the peeling is ceasing. I venture to foretell that in the course of a month or two, under suitable treatment, he will be restored to health, but it is possible that the skin may remain congested and irritable in certain parts for a much longer time. If we are to define eczema as a dermatitis attended invariably by a moist weeping skin, then this is certainly not eczema. But I would ask you not to differentiate it on that account too definitely, because you will see many cases, very similar to the one before us, in which there is more or less a moist exudation and a distinctly eczematous process. This case is in all features exactly like some of those which made up the epidemics of contagious eczema, as they were called, at the Paddington and Marylebone workhouses two years ago. In those epidemics, almost demonstrably due to contagion from patient to patient, in some cases the skin was moist and eczematous, and in others only congested and desquamating.

There are a few facts yet to be stated as regards our patient's antecedents. He is not a very good witness, but it is clear from what he admits that he has suffered from something like erythematous eczema before. Several years ago, whilst working in the wind at Beachy Head, he says that he used to get his forehead and face inflamed, and that he was obliged to leave off wearing a billycock hat because he thought it irritated his forehead. Although he asserts that he got quite rid of this, and that his skin was quite sound up to the date of his present attack last Christmas, he yet admits on being pressed that he may have had some reddish patches remaining on his arms. I think it exceedingly probable that he had some, for it is a very common fact in the history of these cases of universal dermatitis to find that the patients have for long previously had local and unimportant patches of dry eczema. What is called eczema rubrum of the leg is a very common antecedent to them.

My theory in respect to the causes to which such cases as this are due is that they depend in the first instance upon the local irritants which produce eczema, such as exposure to wind, sun, sea-air, slight injuries, and many others. In the next place I invoke the hypothesis that the eczematous process acquires, in some way, contagious elements.

Whether these elements are identical with those that produce erysipelas and become modified and have their virulence mitigated by association with eczema, or whether the form of parasite is allied but distinct, it is impossible at present to decide: the clinical fact, however, remains indisputable that a process of inflammation which may have been quite quiet for years, and local, may suddenly acquire contagious properties, and blaze up as an infective dermatitis. Not only may it infect every portion of the skin of the patient attacked, but it may, in exceptional cases, as has been well proved in the workhouse epidemics to which I have referred, and perhaps many others, be contagious to other persons. The resemblance of the malady to erysipelas does not by any means end with the manifestations of virulently contagious properties which I have mentioned. You will be aware that erysipelas not unfrequently displays a remarkable aptitude for recurrence, and that its attacks may be repeated over and over again, an event which we often witness in cases of elephantiasis. Not only this, but it may be said that a patient who has had erysipelas once is ever after peculiarly liable to the disease. It would appear as if its germs had the power of passing into a quiescent condition and so remaining for months or even years, waiting until some fresh injury to the part, a wound, for instance, gives them the opportunity of again displaying their vigour. I have met with several such cases after operations. A patient in whom it did not appear possible that any new contagion could have been introduced, would be attacked with erysipelas, and, on inquiry, the fact would come out that he had suffered from erysipelas some years previously. All operating surgeons know this, and proceed with much anxiety to inflict wounds on patients who have ever had erysipelas. Now, precisely the same statements are true concerning the eczema cases which we are considering. We have those which recur very frequently, and those which only manifest themselves again after long intervals and under special provocation. I cannot feel any doubt that there is a natural analogy, in other words, a real relationship between the cases which we are considering and erysipelas, and I have long ago ventured to name some of them erysipelas-eczema.

You may perhaps have noticed that in first asking your attention to this case I gave no diagnosis: I called the disease by no name. My omission was purposeful, for I desired to draw your attention in

the first instance to its mode of evolution, and to certain probabilities in regard to its real nature. If we can get hold of those, names are of little importance, whereas, if we use names prematurely, they may often serve to obscure our sight as to far more important matters. I might have told you that this case was one of pityriasis rubra, or dermatitis universalis, but in doing so, I fear I should have induced in your minds the conception of some morbid entity complete in itself, well known to all skilful dermatologists, and having little or no relation to other diseases of the skin. Such ideas, would, I believe, have involved much error, and in order to avoid them I ventured to ask your attention to the clinical features of the case, as if it were one hitherto unnamed. You will see that the suggestions as to causation which I have put before you permit of our having results which may be by no means uniform; and this is exactly what is true of what is known of pityriasis rubra, and which has occasioned great confusion in nomenclature. The disease is not a well-defined one, and examples of it may present very considerable differences. In almost all cases it results, however, so far as my creed goes, from the addition of a contagious element to some previously existing skin-disease. Sometimes it may be an addition to psoriasis, and sometimes to eczema, and the cases may thus present very considerable variety. Excepting in that the tendency towards it is much increased by anything that makes the skin irritable, and induces scratching, I do not believe that constitutional causes have much to do with its evolution. We see it chiefly in patients who are approaching senility, but we see it sometimes also in young adults, or even in children; and it is never, so far as I am aware, preceded by any condition of ill-health. In elderly persons it so often follows eczema, that we usually recognise it as a senile form of that malady. Every one knows the very troublesome cases of generalised eczema which occur in old persons. The differences between them and the more typical forms of pityriasis rubra are, I believe, of degree and not of kind. Let us admit most fully that the virulence of the contagious element is probably very different in different cases. It is very exceptional for it to arise to such a degree of vigour as to show any tendency to spread to nurses or attendants. Precisely the same statement is, however, true even of erysipelas itself.

A LECTURE ON STERILITY.

Delivered at St. Bartholomew's Hospital by

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GENTLEMEN,—I propose this morning to speak about Sterility. I suppose that when a student was asked, a few years ago, what were the causes of sterility, he would have answered, flexion of the uterus and obstruction of its canal. The question is, however, much larger than that, and is, further, very complicated. I do not intend on the present occasion to go into the whole subject at great length, but will refer you to Dr. Matthews Duncan's book on "Sterility," in which it is dealt with in a large and philosophical manner. I shall only attempt to give you a general and practical view of the many conditions producing sterility, without going deeply into any one.

In books on diseases of women, I think you will find that the causes of sterility are dealt with only from the point of view of the female; and it is quite true that this is, in a sense, a logical way of treating the subject, because obstetricians do not have anything directly to do with men. What you have to do is to give your female patient the best advice, but as there are two parties concerned, your knowledge should not be one-sided.

Now, I have found no very simple classification of the causes of sterility, but I propose to you a general classification into two great divisions—A and B:

A, consisting of the causes prejudicial to the production or health of the sperm-cell or germ-cell—failure of production.

B, of the causes prejudicial to the junction of the sperm-cell and germ-cell—failure of exchange.

A country which has no power of coining money you may say is badly off, and equally badly off is a country which coins ever so much money, but has no opportunities of exchange. These two heads really do exhaust the subject. Now, it is really only division B which we generally have to consider practically with a view to our patient, because we can seldom control the causes in the first division. Therefore we may talk about them as much as we like—and it is a very interesting subject—but there we end. More than that, it is only a few cases in class B that we have anything to do with practically, but the whole of A and the whole of B have to do with a very important part of our

duty—that is, prognosis. It is no use beginning to treat a woman or a man for sterility, or anything else, if the prognosis is hopeless.

Sterility is spoken of in treatises under two technical terms, relative and absolute. By "relative sterility" we mean all those classes of conditions which give rise to abortions, infrequent births, still-born children, and, in fact, anything which limits the number of children effectively. It is a very important part of the matter, this, because if a child is born and dies it is no good to the State, and no use in the propagation of the species. Anything which is prejudicial to the normal number of children produced is part of the question of relative sterility; while "absolute sterility" means absolute failure of conception, and it is only that which we have to deal with at present. But we put away this morning that great philosophical question of relative sterility, not because it is uninteresting, but because we have nothing to do with it now as practitioners.

Now, first of all, with regard to division A. The influence of these causes is partly known in plants. Market-gardeners and horticulturists know that there are trees which bear no fruit; trees which bear fruit, and the fruit falls before it comes to maturity; we know oranges which have no pips—and very nice they are; and then we have trees which bear fruit, seeds in the fruit, and yet the seeds come to nothing. All these are failures in the sperm-cell and germ-cell of the plant. It is also known among wild animals in confinement. In the Zoological Gardens it is only a certain number of animals which breed; some do not attempt to breed; others do, and nothing comes of it.

Another curious thing is that we always regard the female as the weaker sex. Now, that is a great mistake: as regards matters of reproduction males are much the more delicate of the two. I may illustrate this by the case of mules: you know quite well that you can cross mules over and over again if you cross the female mule with a male horse or donkey, and yet the male mule is sterile. The laws concerning men are very delicate and obscure, depending on such points as general health, age, etc., though when you talk of age in connection with the reproduction of a man, you talk of a thing almost unknown, for a man may be reproductive at any age. This is a fact, too, which often gives rise to serious complications. An old gentleman who owns large property has no child, and the heir spends money in advance and runs up bills; then

the old man marries a young girl when he is about seventy, has a large and thriving family, and the heir is cut out. The age then at which a man ceases to be capable of reproduction is very uncertain.

Now, we will talk a little about this first class of cases—A. A man may be sterile who is congenitally ill-developed, or who is prevented from being reproductive by age, health, or intermarriage. The last of these is curiously marked, especially in hybrids, that is to say, in cross-bred members of the human species. A white man marries a black woman, and they have children. The race of hybrids may go on for a little while, but—as we see in our Colonies—they eventually die out, and it is rather a good thing that they do. Then there is another curious thing which is known as want of sexual affinity. It requires rather special instances to press this truth home, yet there are cases. A man and woman both capable of breeding marry, and yet they cannot breed together. The classical instance is that of Napoleon and Josephine. Josephine had been married to a man named Beauharnais, and had had children, and Napoleon also had children. He was very anxious to have children by Josephine, and yet could not. Then among other possible causes I may mention masturbation—I use the term in its pathological sense. It is, however, a very doubtful cause indeed. It is true that people who masturbate are weak because they do so, but more probably they masturbate because they are weak; they are often, too, of insane tendency, and bad specimens of the race.

Now about gonorrhœa—a matter of great importance in this connection. Gross showed that in one-sixth of all cases of sterility investigated by him the semen was at fault. It contained pus or blood, or the sperm-cells were absent, few, deformed, or dead. In many of these cases there is a history of gonorrhœa, of long-standing swelling of the testicle, of epididymitis. The popular idea is that a man who is sexually vigorous must be fertile, and his wife is treated in every sort of way, often treated by a number of operations, varied by a series of pelvic inflammations, till she becomes as sterile as her vigorous husband. It was not she who was to blame. When you ask the husband whether he is able to perform his conjugal duties properly, he laughs at you; then you ask him if he has had a swelled testicle and how long he has had it, he answers several months, and in the end you find that he is either incapable of producing any sperm-cells or that the sperm-cells are dead or

deformed. He is a perfect sham; his vigour is useless, and he is as incapable of breeding as if he were a eunuch. To carry on our metaphor of coinage, he is no better than an utterer of counterfeit coin. It is rather a pity, talking of venereal disease in this connection, that it is gonorrhœa, and not syphilis, which is so likely to make a man sterile. There seems to be no provision in the original economy of nature for this pathological fact: a man with gonorrhœa can very often not breed, and a man with syphilis can, and, unfortunately, often does so.

Now for the second class of causes under A, namely, those concerning the female; and here again I will not attempt to go fully into the matter, merely giving you instances of the causes of sterility under this heading. And, first of all, there is congenital ill-development of the organs, especially, of course, of the ovaries. I must remind you here, whenever you have a case of a woman sexually deformed, never to omit to measure the pelvis; sometimes it shows no disorder at all, but sometimes it does, and fails to take on the female form—a very interesting thing as illustrating the great cause of the female shape of the female pelvis, which is that the woman is a woman. With regard to the question of age, I must point out that the fertile age is not co-extensive with the duration of menstruation, for it begins later and ceases earlier, lasting on an average for fifteen years, and between the ages of 23 and 38. Dr. Matthews Duncan gives reasons for what he calls the age of nubility—the proper age for a woman to marry. He shows that the bones of the pelvis should be properly grown so that she should not be called upon to make growth for another being, before she has done so for herself to the fullest extent. He shows also that this is the age at which the chances are that the processes of reproduction will be carried on with the greatest success. He shows that between twenty and twenty-five years of age is the best age for marriage, the ages before and after this being more liable to hydramnios, twins, sterility, and so on. With respect to the general health, among other affections specially connected with sterility are chlorosis and also obesity. A woman or a female animal who gets very fat is very unlikely to breed; you sometimes find that when a woman ceases to menstruate from any cause she gets fat, in some cases extremely fat. She then very likely becomes incapable of breeding—a fact to be explained by the natural antagonism of

growth and genesis. Want of sexual affinity I have already alluded to, and this want concerns, of course, both sexes, as far as we know. I do not know, however, how we are able to learn whose the fault is, as both parties can point to their children in proof of their productiveness. This, indeed, is one of the most obscure parts of the subject. The gradual extinction of the hybrid races, and sterility from intermarriage, is summed up by another phrase in natural philosophy; impregnation is the establishment of an unstable equilibrium in a cell. Sterility may be due to want of impulse from a disturbing cell element; such a cell element, if not too unlike the germ-cell, being conceivably capable of producing more disturbance if unlike than if like the germ-cell. The germ-cell is in a state of potential activity, and the sperm-cell comes and gives it actual activity. You will see the whole thing worked out very well indeed in Herbert Spencer's "Animal Biology."

Then there is the escape of the germ-cell, and among the causes prejudicial to this, we must mention first inflammation around the ovaries, so enclosing them in adhesions, that the ova cannot escape from the follicles. But you must not tell a woman who has had a pelvic inflammation that she can never again become pregnant. Remember the adage, "Never prophesy until you know." Many a woman is told after a bad labour that she will never have another, and when this turns out to be untrue, she reproaches the medical man with having given her false security. The amount of unchanged ovary necessary for the purpose of reproduction is very small indeed. Women with double ovarian tumours are very often fertile. There is some healthy tissue left, and they bear children.

Let us now turn to class B—"Causes prejudicial to the junction of the sperm-cell and germ-cell." We all know that they do meet somewhere. But as to the exact place where they do meet, we know nothing definite. Some believe it to be in one place and some in another.

Of the causes to be included under this head, first of all comes impotence, that is, "impotentia coeundi," and remember that impotence does not occur in old and decrepit men alone, but sometimes in young and stalwart individuals who you would think were the last persons to have any troubles of that kind at all. Of such things a wife never tells you, she does not think of telling you, and you do not like to question her. Some-

times you find a woman has an unruptured hymen after months or years of marriage, and this is often not due to impotence at all, but to nervousness or ignorance. Then you have malformations of the genital organs in man, and it is to be noted with regard to this, that a man with hypospadias is all right, a man with epi-spadias is all wrong. If a man has had gonorrhœa, and this produces occlusion of the efferent ducts, he may be capable of producing spermatozoa, but, of course, they can not get out.

Then, in the female: the first cause of all is vaginismus, and I cannot go again through all that, but refer you to my lecture on this subject some time ago.* Then you have malformations, such as imperforations of the genital tract; or imperfect development, the cervix being what is called conical, or being hard in texture. Sometimes you have curious distortions of the uterus, or ill-development of its ligaments; you have the uterus displaced to the side by shortening of the broad ligament, or backwards by shortening of the sacro-uterine ligaments. The right way to look at these malformations is to regard them merely as outward and visible signs of an unfavourable condition of development. Not that a little absence of symmetry matters a bit in itself. A woman who has an old parametritic deposit may have numbers of children after that. If you alter the shape of the cervix or stretch the ligament, it does no good. A woman is not bound to have her uterus mathematically in the centre of the pelvis. Spasmodic dysmenorrhœa is often a sign of the imperfect development of the sexual organs, which are poorly developed, and unable to perform their functions properly. Then there is occlusion of the genital tract through inflammation. A woman may have occlusion of her tubes, just as a man may have occlusion of the vas deferens, and if both tubes are occluded she must remain sterile. Then there are diseased secretions. There is not the least doubt that there are secretions which will either kill the sperm-cells or render them so feeble as to be incapable of impregnation. There may be a purulent or decomposing discharge from the cervical canal, and from that cause doubtless many women are sterile. On the other hand, women with gonorrhœa do sometimes conceive. The glairy secretion of the cervix must not, however, be confounded with any such unhealthy discharge.

* This Lecture appeared in the "Clinical Journal" of November 16th, 1892 (No. 3).

It is the cultivating medium of nature, and the plug of cervical mucus is where the spermatozoa apparently like to live best; but there are diseased secretions of the cervix, and also of the uterus, which prevent conception. For instance, women with cancer of the body of the uterus hardly ever conceive; conception may happen in early cases of cancer of the cervix, but the sperm-cells have to run the gauntlet of a long tube of diseased tissue, and conception is rare.

With reference to spasmodic dysmenorrhœa in connection with sterility I must refer you to my former lecture on this subject, merely saying at present that you must remember that spasmodic dysmenorrhœa tends to show some derangement in the peristaltic movements of the uterus, and it is more than likely that sterility in such cases is due to the same cause, that is to say, it is due to the disorder of the mechanism which is the cause of impregnation, as it is also an essential part of menstruation: when one gets right the other gets right. When spasmodic dysmenorrhœa ceases the woman often conceives, sometimes so quickly that you have not time to tell whether the dysmenorrhœa has ceased in consequence of treatment.

With regard to flexions, they may be said to be the bugbears in the matter of sterility. Of course, women with acute ante flexion are generally sterile, and the flexion of the uterus is a sign of its not having been impregnated. But to do away with a flexion is just as philosophical as to take a knife and cut the abdominal wall for the purpose of preventing sterility by imitating the "*lineæ gravidarum*."

Now, how do you treat class A? Generally speaking you cannot treat these cases at all, though sometimes you can. You can't treat old age for instance, but sometimes you can treat general health by sending people away to Spas or by separating the sexes. Of course, you can treat sequelæ of inflammation in men to some extent, though not to a very great extent; and in women you can do so, as in a good many peritoneal inflammations.

And how do you treat class B? Well, to men you can give good advice, and if a man has epi-spadias you can try to cure him or get some one else to try. Do not give either sex aphrodisiacs; there is something wrong, something medically immoral in such a practice; I would not give a glass of water as an aphrodisiac myself; neither would you give them, I am sure, of your own accord, but patients worry you so.

Then, in women, vaginismus can be treated, catarrh can be treated, spasmodic dysmenorrhœa can be treated; the latter very often successfully by dilatation. If the woman has been married a few years and continues to have no children, the best way is to dilate her cervix rapidly, and she sometimes conceives at once, so quickly, indeed, that you have no time to see if she has got rid of the spasmodic dysmenorrhœa, because she never gives you the chance. But no woman should be subjected to any serious operation for sterility unless you know that her husband is not at fault. It is best that the same man should not be the examiner of husband and wife. The best way is to get a surgeon who is an expert to examine the man and report to you, thus keeping the sexes apart.

In congenital deformity you can generally do nothing. You sometimes hear of people making an artificial vagina, the tissues are bored through till the cervix is reached, and the man calls it a new vagina. It is no more a new vagina than a tunnel bored in the gluteus maximus would be a new vagina. This making of tunnels through dense tissues, and calling them by names of natural structures is nonsense. You should say plainly to a patient with such a congenital deformity, "You are not made properly, and I can't make you properly." Of course, occasionally it is very painful; people are married sometimes before they discover that they have anything the matter with them, and then the discovery becomes the cause of much suffering to them.

On the other hand you are sometimes told you should never do plastic operations at all to enable deformed animals to breed. But I think that is very hard. Do you mean to say a man with a club-foot is not to be allowed to breed for fear his children will have club-feet? Lord Byron had a club-foot, and he has, nevertheless, been thought a great poet. A man or woman with physical deformities may produce a child who will be an ornament to the race. In the case of moral deformity that is a different matter, and if we could stop the transmission of that deformity, well and good. Unfortunately we cannot.

To sum up, we should tell all our patients that the causes of sterility are very obscure, that it may be due to some slight defect, and that there may be more than one course of work. Do not subject them to serious operations unless you are sure of your ground.

NOTE ON VERSION.

Communicated by DR. AMAND ROUTH.

In a lecture on the above subject published in your issue of February 8th, I made use of the following sentences:—

"Podalic version is much the most common form of version employed. When the arm is prolapsed in cases of neglected shoulder presentation, it is the only form of version applicable, unless the uterus is lax, and the arm can be replaced across the chest."

And then, speaking of cephalic version, I said:—"The combined or Braxton Hicks' method is entirely unsuitable if the arm is prolapsed, as it is impossible to replace it by the combined method, and the mere fact that the arm is prolapsed implies absence of liquor amnii, and there may also be much tonic contraction of the uterus. For the ready performance of the combined method intact membranes are desirable."

In my own experience this has been strictly correct, as I have unfortunately been always hitherto consulted in cases where the arm had been sufficiently long prolapsed to have made, in my hands at least, "combined" cephalic version impossible, podalic version having been the alternative expedient adopted, sometimes by the "combined" method, but more usually by the intra-uterine method under deep anæsthesia.

I have, however, received a very courteous and interesting communication from Dr. Braxton Hicks, whose practical experience of "version" is probably unique. Dr. Braxton Hicks says:—"You say that the plan going by my name is totally unsuitable to cephalic version if the arm is prolapsed. This would be true if the uterus is tight round the child, but there are many cases where the uterus is not tight, and the foetus can glide."

Dr. Hicks then pointed out that he had described in his book two cases where he successfully performed cephalic version where both the arm and funis were prolapsed.

Of course the arm has to be replaced first, and Dr. Braxton Hicks considers that the best method is to first flex the forearm on the arm, then push the elbow so that the hand crosses over the foetal chest into its natural position; then depress the head and elevate the breech from without, exerting pressure on the shoulders, in the direction of the breech from within.

I thought this kindly communication by one whose experience is so much greater than my own would be as interesting to others as it has been to myself.

CLINICAL NOTES.

(Specially reported for The Clinical Journal. Revised by the Author.)

*WITH DR. HADDEN AT THE HOSPITAL FOR SICK CHILDREN.

Defect of Articulation.

It is nearly four years since this subject first engaged my attention, and I published an account of my cases in the "Journal of Mental Science" for January, 1891.

My first patient was a boy, aged 11, perfectly intelligent, not deaf, and free from any local defect of the parts concerned with articulation. He was voluble enough, but quite unintelligible. The explanation was that he was unable to adapt his lips, tongue and other parts in the co-ordinate way necessary for perfect articulation. This boy was isolated and taught on the oral plan like that adopted in the case of deaf-mutes, and our efforts were finally quite successful. It is perhaps not too much to say that every infant is taught at first on the oral system. You see the mother facing the child and mouthing simple words—words, too, the mechanism of which is visible, such as "dada," "mamma" and the like. The infant first reproduces by sheer mimicry, later spontaneously. Thus the child gets a start with a few elementary sounds, and subsequently others are reproduced when heard, almost automatically and without special instruction.

This boy, whom I bring before you this afternoon, is an excellent example of this affection. He is 6 years of age, very bright, not deaf, and able to use his lips and tongue freely. Yet, as you will hear, his speech is mere gibberish. (The child then repeated in his own language the alphabet and the Lord's Prayer.) The little hymn which he has just sung shows that he has no difficulty with musical sounds. We are teaching him on the principle adopted with the other boy, and although he has not been isolated he has made some progress.

I bring before you also a boy, now 7 years of age, whose case I alluded to in my paper. He was brought to me at the time when another case was under instruction at St. Thomas's Hospital. I therefore sent the mother there to see the method

which ought to be used. I confess I was not sanguine about the ability of the mother to carry out the instruction efficiently. Unfortunately for her, but fortunately for the boy, she was returning home one day after her visit here, when she fell and injured herself severely. She was confined to her room for two months, and during that time she threw all her efforts into the task of educating the boy. As you now hear he speaks perfectly, although at one time he was practically unintelligible. Just a final remark about this condition. My friends Dr. Hale White and Mr. Golding-Bird brought forward two examples at the Medical and Chirurgical Society last year (vol. lxxiv.), and they proposed to call this affection "idioglossia." I do not think this a suitable opportunity to discuss the applicability of this term; it is not free from reproach, but some may think it a convenient label. An interesting case of the affection is also given by Dr. Frederick Taylor in the same volume of the "Medical and Chirurgical Society's Transactions."

Sporadic Cretinism.

I must make a few observations on the relations of this disease in order that the method of treatment, which I propose to follow out, may appear to you as having some justification. I wish to impress upon you that sporadic cretinism, the disease known as myxœdema (which is really sporadic cretinism in the adult), and the affection called by Kocher cachexia strumipriva, which follows removal of the thyroid gland, are really identical states, all being dependent upon loss of function of the thyroid gland. The discovery of this pathological fact as regards myxœdema, which was clearly demonstrated by the Clinical Society's Committee, was followed by the treatment of transplantation of the thyroid gland of an animal into the tissues of a myxœdematous patient. Quite lately the raw thyroid gland of the sheep taken by the mouth was suggested, and still more recently it has been found that powders prepared from the gland are also efficacious. Three grains of this powder represent one-sixth of the sheep's thyroid, and this is the dose administered once daily, which has been given with such success in myxœdema. It is right to mention that the preparation of this powder, which probably contains some ferment elaborated by the thyroid, is due to the skill of Mr. White, the pharmacist at St. Thomas's Hospital. If ex-

* This demonstration of cases formed one of a series given in connection with the London Post-Graduate Course.

perience proves that it is as potent as the thyroid gland itself, this will prove to be a distinct advance in practical therapeutics.

The two cases of cretinism which are before you have been under my observation for years, and are in all respects typical. In one of these there is a marked family history of hæmophilia, and although the child had not shown herself a bleeder, I thought it wise not to transplant a sheep's thyroid a year or more ago when that method of treatment was first suggested.

A third case which I present to you is a mere infant, but the facial appearance is characteristic. I do not think that it would be wise to begin the treatment of the two first cases with a larger dose than half a grain of the thyroid powder.

Infantile Hemiplegia.

Infantile Hemiplegia should be divided into cases (a) with an acute onset, (b) without definite onset. Let me give you an illustration of the first group. A child two years of age is seized in the midst of apparent health with convulsions, general or unilateral, lasting a few hours or a few days, and at the end of this time hemiplegia is noticed. In the minority the attack follows so closely such specific disorders as measles, scarlet fever, whooping-cough and the like, that a causal relation cannot be doubted. The difficulty as regards etiology is in those cases in which the hemiplegia attacks children apparently in perfect health. I have lately been trying to prove that in some of these instances congenital syphilis may play a part, and my clinical observations have some support from the pathological discovery of Dr. Barlow and others, that syphilitic arteritis may occur in the child as well as in the adult.

As regards the second class of infantile hemiplegia, in which there is no definite onset—the fact of paralysis, as it were, dawning upon the mother—conditions attending delivery appear to be a common cause. You find a history of prolonged labour, sometimes requiring the use of the forceps; that the child was asphyxiated at birth and convulsed soon after; and that the caput succedaneum was unusually large. In such cases prolonged pressure on the head has resulted in great venous engorgement within the cranium, hæmorrhage as a result, destructive changes in the cortex, and subsequent sclerosis. There are some cases, however, in which there is no such history, and it is

possible that occasionally there may be a sclerosis of the brain apart from the condition which I have mentioned. In this class of hemiplegia the paralysis may not be noticed until long after birth, not indeed until voluntary movements have been acquired by the child.

The cases which I bring before you illustrate these two groups of infantile hemiplegia. I will ask you to notice in this instance, a birth hemiplegia, that the weakness of the upper extremity is shown by little more than clumsiness of the hand. He cannot pick up a pin, and in his endeavours to do so, you see that he is trying, as it were, to pick up an imaginary pin with the sound hand. This associated movement is often seen in infantile hemiplegia, and not uncommonly when the child is picking up a pin with the sound hand, it is curious that the associated movement with the hemiplegic hand is better adapted than the actual voluntary effort.

Infantile Spasmodic Paraplegia.

These four cases illustrate some of the varieties of this affection. All have what I may term a basic condition: I mean the state of the lower limbs. You see that the extremities are rigid, adducted, the knees approximated and overlapping, the knee-jerks exaggerated; whereas in infantile paralysis the muscles are not only paralysed but flabby, the electrical reactions profoundly altered, and the knee-jerk often absent.

The rigidity of the lower limbs may be present alone, with or without mental defect. Rigidity of the arms may accompany the rigidity of the legs, and when this is so mental defect is commonly present; these cases are sometimes called "double hemiplegia." The arms may be the seat of simple inco-ordination, or of irregular movements; and to the latter condition "congenital chorea" has been applied, a name which does not commend itself to my mind. There are a few other varieties having spasm of the lower limbs as a common basis, which I will not now enumerate.

These cases are usually ascribed to prolonged pressure on the head during delivery and consequent hæmorrhage, as in congenital hemiplegia; but it is very probable that there are other causes. Nevertheless I think I may safely assert that many of these cases may be included among "obstetrical paralyses," and this is a fact which cannot be too strongly impressed upon the minds of general practitioners.

This child is 6 years old, and when born was "black all over," but has never been convulsed. She takes no notice, and the legs and arms are rigid. The knee-jerks are exaggerated, but you will observe that the range of movement is limited by the extreme contraction of the hamstrings. Ankle-clonus is rarely seen in cases of this kind, or indeed in any of the group of infantile spasmodic paraplegia, or in infantile hemiplegia. I have found it only occasionally, and then the children have begun to walk. My impression is that it is not found in children who cannot walk.

This child who is 6 years old has the characteristic position of the legs. He is intelligent and talks well. The causation is doubtful. He was the seventh child, born it is said at the seventh month, but there appears to have been no difficulty in delivery.

This little boy, now aged 7 years, is interesting as regards prognosis. He has been under my observation for years, and until lately has not been able to walk. He now gets about fairly well, and indeed you will find that the outlook in this respect is not usually unfavourable unless there be grave mental defect.

The last case is exceptional; although there is marked rigidity of the upper limbs the child is very intelligent.

Prolonged rubbing, passive movements at the various joints and the use of the go-cart are all of service in spastic paraplegia. Electricity is quite useless, perhaps injurious. Division of tendons may be called for, but this procedure should not be performed hastily.

TWO CASES OF ANEURISM OF THE AORTA.

BY

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THE two following cases illustrate some of the difficulties of diagnosis which arise in the course of a deep-seated intra-thoracic aneurism:—

Case 1.—*Aneurism of transverse arch of aorta compressing the left bronchus.* John N—, a coloured man, æt. 34, was admitted into the hospital on July 13th, 1892. He was by trade a steel-

worker. He had always been temperate, and had enjoyed good health until last November, when he had the influenza. Since then he had suffered from shortness of breath, cough, and a varying amount of expectoration. Ten weeks before admission he had to cease work, on account of increased cough, expectoration, and dyspnoea. On admission he seemed very weak, the temperature being 100°, rising to 104° that evening: respirations shallow and noisy; pulse 180, full and soft. The physical signs of general bronchitis were present, together with dulness, tubular breathing, and bronchophony over the left base. The temperature varied between 100° and 103° for the first six days, when it fell to 98°. This fall was not maintained; the temperature oscillating between 99° and 101°. The patient's general condition improved, but the physical signs at the left base did not clear up. On August 18th, therefore, aspiration was performed, and 18 oz. of rather dark turbid fluid withdrawn. There was now much less cough with a little frothy expectoration, and he seemed very much better. On the 20th August the temperature rose to 100.2°, and he complained of tightness in the chest and difficulty of breathing. On the evening of the 21st, when I first saw him, the breathing was laboured, 30 to the minute, expectoration profuse and almost purulent; temperature 103°; pulse 120; there were occasional paroxysms of dyspnoea, with profuse cold sweating, and clamminess and coldness of the extremities. After two hours this condition was relieved by the expectoration of 6 oz. of viscid muco-purulent sputum, slightly offensive in odour.

During the night he continued to expectorate large quantities of still more offensive and more purulent material; the temperature fell to 97°, and the patient's condition was one of great prostration. He lay constantly on his left side, as any attempt to lie on the back or right side caused a paroxysm of dyspnoea and profuse expectoration.

On examination there was tympanitic resonance over the left side of the chest, from the clavicle to the third rib, below this it was normal to the fourth rib, below which again there was dulness. In the left suprascapular region the percussion-note was also, high-pitched, and below the angle of the scapula dull. No breath-sounds were audible over the tympanitic area; there was no bell-sound nor metallic tinkling at this date, but on the 24th a slight bell-sound was obtained. In the axilla, and over the base the breath-sounds were harsh, and

accompanied by large moist râles. During the next two days the expectoration became more offensive, and it was thought desirable to make an effort to determine whether there was a collection of pus deeply seated within the lung or between its lobes, as exploration had showed that there was none in the pleural cavity, neither over the base nor over the upper lobe of the lung. He was accordingly put under chloroform, but although extreme care was taken in its administration, breathing stopped as soon as narcosis was complete, and the attempts at artificial respiration only seemed to fill the air passages with sputum.

At the autopsy on August 25th, 24 hours after death, the body was well nourished, there being a thick layer of subcutaneous fat. On opening the chest on the left side, some air escaped (water-test) from left pleural cavity in second intercostal space. The upper lobe of the left lung was collapsed and carnefied, and lay towards the back of the chest; firm adhesions united the lower lobe to the chest wall, and in the space above, surrounding the upper lobe, there was about half a pint of serous fluid. The left bronchus was compressed by the aneurism and narrowed at the junction with the trachea; all the bronchial tubes were much dilated (cylindrical dilation) like the fingers of a glove. They all contained a large quantity of thick, almost purulent, frothy secretion. The parenchyma of the lower lobe was collapsed in places, and in others had undergone hepatization.

The right lung was voluminous; its lower lobe congested; the bronchial tubes, of normal size, contained a little mucus. Springing from the transverse arch of the aorta from its posterior and inferior surface, just to the right of the origin of the innominate artery, and extending downwards and backwards, was a sacculated aneurism, the size of a Tangerine orange, which opened by an aperture, rather larger than a shilling, into the aorta, and was filled with luminated firm white clot. The aneurism pressed upon the left bronchus at its origin, and also upon the trachea just above the bifurcation; at this spot the tracheal rings were eroded, and the mucous membrane reddened and slightly ulcerated. The right bronchus had escaped pressure.

The heart weighed 17 ozs., it was large and flabby; the muscular tissue showed slight fatty change. There were a few small patches of atheroma on the mitral valve, and both mitral and tricuspid valves were incompetent. The aortic and pulmonary valves were normal. The liver showed slight excess of fat. The other organs were healthy.

This case was an exceedingly puzzling one. Possibly had the man's condition permitted it, although there was no loss of voice, an examination of the larynx might have shown some laryngeal paralysis which would have thrown light on the diagnosis. He was, however, too ill when I saw him to permit of a very thorough examination. The history of the antecedent attack of pneumonia, the general course of the illness, the expectoration of a quantity of thick foetid muco-pus, with the undoubted presence of fluid at the base of the left lung, led me to think that there was a collection of pus be-

tween the lobes of this lung which had obtained imperfect outlet through the bronchus. As the man was obviously getting rapidly worse, and repeatedly appeared to be in imminent danger of death from suffocation from the escape of this stuff into the bronchial tubes, it seemed right to make an effort to relieve him and to give the fluid a free outlet. With the view of deep exploration by means of the aspirator, he was placed under chloroform, with the unfortunate result above-mentioned.

Case 2.—The patient, a woman of 35, was admitted to the Bristol General Hospital, August 16th, 1892, complaining of aching pain in the left side of chest, radiating down left arm, causing pain in fingers, but no tingling or numbness of the left hand. She also complained of pain between the shoulders, especially under the left.

She had had eight children, all of whom are dead. One child was still-born, the remainder died in infancy, at ages ranging from one month to six weeks.

About three years ago patient complained of similar pains to those described above. She attended the hospital as an out-patient for some time, and then got better.

Last Christmas (1891) she was in the hospital for three weeks, for a similar complaint. She obtained relief, and remained well until the middle of July, 1892. She has suffered from winter cough for the last three or four years of her life; she was said to have had rheumatism at Christmas, 1891, but not rheumatic fever.

Patient has attacks of pain about every hour, which are worse at night or on walking about; the paroxysm usually lasts fifteen to twenty minutes, and is not accompanied by syncopal symptoms. At the first onset (*i.e.*, about the middle of July, 1892) patient vomited five or six times; she has not vomited since this. Her feet and ankles used to swell, but there has been no oedema since her admission to the hospital. There has been shortness of breath; no headache. She had no pain after food, but suffered from flatulence.

On admission her aspect was sallow and anæmic; appetite very poor; bowels regular; catamenia regular, but scanty; tongue fairly firm, covered with a moist white fur. Temperature normal. Pulse 84, regular, small; tension somewhat increased. Pulses equal; pupils equal.

Physical Signs. *Heart*; (when the patient was lying down) apex beat not detected. In second

space to left of sternum; slight swelling and pulsation can be seen and felt, and over it the closure of the aortic and pulmonary valves can be felt.

Dulness begins at second rib above, extending from middle of sternum to half-inch outside its left border. Lower down, the dulness extends outwards to right side of sternum and to the left to nipple line.

Sounds. At the pulmonary area the second sound is accentuated and preceded by a long, blowing, systolic murmur conducted upwards to the right and left. At the aortic area the second sound is reduplicated. At the junction of the sternum and ensiform cartilage there is a systolic murmur, which is heard over the whole of pre-cordial area, and, accompanying this, a "to and fro," exocardial murmur, loudest in the third space near the sternum, but also heard over the sternum. At the apex a "to and fro" blowing, but harsh murmur with the diastolic portion prolonged is heard.

The second sound is present at the apex, where the murmur is very faint.

The latter murmur is very superficial and not increased by pressure.

When sitting up, the apex beat could not be made out, and the "to and fro" murmur was barely audible.

At the left vertebral groove the second sound could be heard at the back, but the murmur could not be detected.

Lungs. Nothing abnormal heard.

Liver. Extends to half an inch below ribs.

Length, five and half inches in nipple line, and its lower edge could be plainly felt.

Patient died suddenly and quite unexpectedly at 11 p.m., August 18th, 1892.

Artificial respiration was set up and continued for twenty minutes.

The post-mortem examination disclosed a sacculated aneurism springing from the right lateral and posterior surfaces of the first part of the aorta, which had ruptured into the pericardial cavity. About eight ounces of soft red clot was found in this cavity, and on the visceral pericardium there was a large amount of organized lymph.

In cases of very great dilatation of the right auricle and ventricle pulsation and slight bulging in the second left intercostal space may be evident clinically. In view of the extreme anæmia which existed in this woman, such an explanation of the physical signs was a possible one.

Clinically such extreme enlargement of the right

heart is most commonly found associated with the late stages of mitral stenosis. There was nothing, however, in the patient's history, nor in the concomitant physical signs to warrant such a diagnosis, and the conclusion arrived at was the somewhat indefinite one that there was some condition causing obstruction to the flow of blood out of the right heart, and that this was perhaps caused by the pressure of an aneurism or of a mediastinal tumour, but that the evidence before us did not enable us to determine the exact cause. The aneurism was found at the autopsy to have pressed upon the pulmonary artery. The presence of pericarditis accounted for the friction sound. Pathologically, the chief feature of interest was that the aneurism arose immediately above, and not out of the sinuses of Valsalva, as is more commonly the case.

THERAPEUTICAL NOTES AND FORMULÆ.

Alkalies in Pruritus:

Lange records good results from the use of of Alkalies in four rebellious cases of Pruritus. The urine was charged with uric acid and urates. Bicarbonate of Soda, Carbonate of Lithium, and Alkaline Waters were used, with the effects of curing the Pruritus in a few months.

(*Novo. Rem.*)

The Dose of Santonin for Children:

Dr. Demme considers the smallest efficient and perfectly safe dose of Santonin to be from one-sixth to half a grain, or from one to one and a half grain a day. As a vermifuge he always associates Santonin with Calomel.

(*Revue des Maladies de l'Enfance.*)

Chronic Constipation. (*Hare's System of Therapeutics*):

| | | | | |
|----|-----------------------|-----|-----|-------------------|
| R. | Aloin. | ... | ... | gr. $\frac{1}{2}$ |
| | Ext. Belladonnæ | ... | ... | gr. $\frac{1}{8}$ |
| | Fel. Bovis Inspissat. | ... | ... | gr. ij |

Fiat pil No. j. Sig. One or two at bedtime.

For Rigid Perinæum. (*Annals of Gyn.*):

| | | | |
|----|----------------|-----|--------|
| R. | Chloroformi | | |
| | Etheris Sulph. | ... | āā ʒij |
| | Listerin. | ... | ʒj |

M. Sig. Apply locally.

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WEDNESDAY, MARCH 1, 1893.

A CLINICAL LECTURE

ON

CHEYNE STOKES'S RESPIRATION.

Delivered at Guy's Hospital, Feb. 18th, 1893,

By J. F. GOODHART, M.D., F.R.C.P.,

Physician to the Hospital.

GENTLEMEN,—In giving lectures of a strictly clinical kind a method adopted by some is that of bringing the patient into the theatre, and thus demonstrating the points of the case; another way is to take a class into a ward set apart, and do the same thing round the bed; and still another is to give a *resumé* of the main points of a particular case which has come under the notice of the lecturer. All these are useful; but a thing that strikes me in the practice of medicine is this:—How difficult it is when one is dealing with a particular case, and wants to arrive at some points of information with regard to the management of the disease, to get at your man. You don't get from his books the little "wrinkles" he has learned in practice, and that have made him able with more or less success to cope with disease. Take such an one as the late Sir William Gull for example; think of the amount of experience that was crammed into that man, and yet what of it has he left behind him? he is known not by this, but by his additions to the scientific side of medicine. The same may be said of many an one still living: we do not really get at the man and the way he does his work at the bedside from his writings. It was while reflecting on this point, and thinking what my first lecture this session should be about, that this suggestion came across my mind: "What case have I seen lately that will, to a certain extent, give a *picture* of a condition of things which is very real, very common, and at the same time very difficult to find in books."

A case now in Philip Ward seemed to satisfy my want—a case of heart disease, so I call it, or if you like, of Cheyne Stokes's Respiration. I take it that most of you know what Cheyne Stokes's Respiration is in a general way, but few of you know what it is as you have it in its varieties at the bedside. There is an excellent report before

me of this particular case, but I shall not read it to you, nor refer to it in much detail, because I must paint the picture from many cases, not from one.

The first thing that strikes me as worth reference is the *aspect* of the man: he is pallid, and more than that he is sallow, and, as it says in the report, has an "aspect of distress" upon his face—a look of anxiety very marked when he came into the ward. That at once gives you the idea of something serious the matter, puts you perhaps on the track of the possibility of, we will say, heart disease.

Then you find there is something peculiar about his breathing, which is of a very strange rhythmical kind. There are frequent pauses in which there is no breathing going on at all, an interval sometimes of twelve or fifteen seconds, and if you time fifteen seconds by your watch and stop breathing for that time, you will find that it is a long stretch of abstinence, and yet it is by no means an uncommon one in this condition; then as you watch a little flutter takes place, and then gradually, with a deeper and deeper heave, he comes to a perfect agony of respiration at the acme of the paroxysm, and then in inverse order the movements of the chest gradually slacken down again to the pause. That is the condition described as Cheyne Stokes's Respiration.

But in some of its phases you have other symptoms also, and the next thing I would have you note is the *restlessness* of the patient. But that must be qualified to a certain extent, because I do not think it is a condition which is so well marked in hospital practice as it is in the middle and upper classes of society. It is an unwise thing to make distinctions between the classes and the masses in politics, but I think it must be done in medicine; for there can be no question that the features of a disease as met in the hospital are often very different from those seen in private in the home. Thus, indeed, it is, and must be, that when students go away from a hospital they are a little raw at first, and sometimes have to suffer for it. Where you are dealing with subjects living on the stressful side of life you find that the more sensitive portions of their nervous systems get worn down; the fine edges of their nervous

susceptibility become obliterated, and they do not feel the little frets and troubles of disease so much as those nursed in comfort or luxury. And therefore I say that the fearful restlessness so often associated with this cyclical breathing is not seen to its fullest extent in the hospital wards. When it is the poor patient cannot lie down in bed, he cannot keep within the bed clothes, he pants, he begs you to open the window, all, all for air, but no relief is obtained until the paroxysm comes to an end. There is a great deal of nervous excitement superadded, as well there may be, and these patients get into a panic when the paroxysm comes on, thinking they are going to die, as, indeed, they eventually do in one of them.

"Do the sick fear death?" is a question often asked. Being of a turn of mind fond of paradox, I say it is not the sick, but the healthy who fear death. People who have very little the matter with them fear death a great deal more than most of the really ill do. That we know not the day nor the hour is a strictly physiological statement. Our viscera or organs are all parts of one body, and for most fatal maladies as the body dies so the acuteness of mental perception wanes.

But the picture of disease I am endeavouring to pourtray is a terrible exception. These cases virtually die daily, they feel themselves to be dying, and all but do so, and then come round again to repeat the agony. No wonder that the sick and his family—the whole household, indeed—are in a perpetual panic, and it is this that when you come to deal with it you will want all your wits and knowledge to alleviate even by a little. "It is all very well for you," said a medical man only the other day to me, "you come and give your directions and go, but I am on the spot, and morning, noon and night—several times in the night—I am called. What can I do?" Ah! "What can I do?" when I cannot do much, has an intensity and pathos of which Ouida in her "New Priesthood" shows no conception.

Then there comes another symptom equally distressing, the *sleeplessness*. And if you ask about this, you will have it described to you sometimes as a horrible nightmare: "Just as I am dozing off into a nice sleep a fearful dream comes, and I wake up in such a fright that I don't want to go to sleep again." At another time the chief trouble is referred to the epigastrium. Again, just as sleep seems to be coming, a "gone" sort of feeling, or some other painful experience is de-

scribed as originating in the stomach and waking the patient up with a start. We have little definite knowledge of the meaning of such symptoms. Yet you will have to deal with them all the same and often too.

In this particular case, these various symptoms go with organic disease, as follows: In the first place, there is a general oedema; then there is to be heard a loud mitral systolic murmur; there is albuminuria with good specific gravity of the urine: there is enlargement of the heart, the sounds being conducted outwards, well beyond the nipple; there is a hard and full pulse. As I read these various points over to you, you will probably say, "This is a case of renal disease," and that is quite possibly true. But there is a little difficulty in coming to that conclusion. In the first place, the man has had rheumatism several times, pointing to the probability of primary cardiac mischief. Then let me say that the general oedema, though of course it is often an indication of renal disease, is hardly so in this case; I should say that this patient has a very marked condition of what is called "lumbar cushion," which the older physicians would say was indicative of kidney disease. The albuminuria, is also a point in favour of kidney disease, but against that is the high specific gravity of the urine. It is well worth bearing in mind that, as a rule, if you go to a patient and find the urine has a good specific gravity, and more particularly when, as in this case, the patient is passing a large quantity of urates, that the kidneys must be doing good work, and therefore you would be right in inferring that there was not much kidney disease, and what there was, was only dependent on some congested condition, dependent in turn on disease of the heart. It is not, however, always so, and it is well described in most text-books on diseases of the kidney that there is a stage of Bright's disease—of interstitial nephritis—in which these conditions occur; and I lay stress upon it, because a frequent question of much difficulty, is whether a primary fault is of the heart or kidney. It often happens in the course of Bright's disease that some little bronchitis comes on, some little digestive accident happens perhaps, the heart gets somewhat irregular, and the circulation is thrown out of gear. Under these circumstances the kidney becomes congested, but although in process of granular disease it can still do fair work, and thus the urine presents the appearances seen in heart disease.

Now, what does Cheyne Stokes's Respiration

mean? One may reasonably say that its immediate cause is some disturbed (?) innervation of the respiratory centre, as a result sometimes of impurity of the blood (uræmia), sometimes, perhaps, simply from disturbed circulation. The rhythm is not a very abnormal one, and it is often present in children. Children do not get the extreme condition I have described to you, but they show something of the same kind, and the abnormality, as we see it in the adult, is, perhaps, parallel to what is seen in some forms of brain disease, and where it is very common, indeed, for people to lose all the later ideas and experiences they have acquired, and to go back in their conversation and memories to their earlier years. I suppose something of the same kind happens here. The respiratory centre goes back to its less educated form, and reproduces, in an exaggerated way, the rhythmical character of the respiration that is more or less natural in infancy.

But I want also to impress upon you that this condition is found under two sets of circumstances—in patients practically insensible or comatose, and in others who retain their intelligence. In other words, it is sometimes a symptom of primary brain disease; sometimes of other conditions. In my own experience of cerebral cases, tubercular meningitis and apoplexy have been its causes, so far as I remember at the moment, but it is also said to be associated with thrombosis of the cerebral vessels in syphilis, and so on. It is, probably, not common in such. Where the condition is unassociated with cerebral symptoms then it is nearly always indicative of a dilated heart or a shrivelled kidney, or perhaps of both, and the distress which comes with it is, perhaps, more commonly known by the very apposite term of "air hunger." As regards the heart, it more often occurs in association with a dilated muscle, the muscle remaining good, and with aortic regurgitation, generally connected with extreme dilatation of the left ventricle. I don't think it is common in pure mitral disease, and therefore I think there is something behind the mitral bruit in this particular case, and am a little in doubt how far the condition is one of simple mitral regurgitation. As a broad rule, the phenomena indicate a dilated heart or a shrivelled kidney. The distinction, I repeat, between these two conditions is by no means an easy one, and yet, if you call a case of heart disease one of kidney disease, or *vice versa*, it is quite possible that the public, or

some professional brother who may come after you in the case, may incline to belittle you. Nevertheless, I want you to bear in mind that, however much the symptoms may point to disease of the heart, there is also, in *most* cases, kidney disease as well, and in *some* cases it may be possible that the kidney disease may be the primary and essential condition.

The prognosis is always grave, and, as I have already said, you will want all your wits to relieve the disease, and with the best intentions you will seldom do this so satisfactorily as you might wish.

The treatment depends on the question, What is the primary source of the disease? If it originates in dilatation of the left ventricle, and if the muscle is a good muscle, and only failing from the hundred and one combinations which may cause failure, you should give Digitalis, Belladonna, Strophanthus, and so on; you give cardiac tonics, in short. Of the other remedies in use, one common, and yet uncommon, drug is Sparteine. Some physicians are fond of it, but I do not very often use it; I go to Digitalis first. If the Digitalis fails one resorts to Strophanthus, or some people would say, resort to Sparteine. Dr. Broadbent thinks well of combining Sparteine with other drugs—with Digitalis, or with Strophanthus, or Caffeine, for example, and these often, I believe, work well.

Then of other drugs there is Strychnia; Strychnia is one of the best of heart tonics if the muscle is good, but very much more efficacious if you inject it subcutaneously than if you give it by mouth. This is true of most drugs that allow of it, but it is especially so, perhaps, of Strychnia. I am not prepared to say that I am quite so convinced of this increased action on the heart itself when administered subcutaneously, as I am of the more immediate response of other parts of the muscular system; but even in this respect I saw a case once which made a strong impression on my mind in its favour; it was a little child with an attack of diphtheritic paralysis of the heart; she became bloodless, the heart rapidly dilated, and a mitral murmur developed. Notwithstanding that there seemed little chance of success Strychnia was given, in combination with Digitalis, and she slowly recovered, as I think, in great part from the administration of that particular remedy. The late Dr. Habershon was in the habit of giving Strychnia hypodermically in bad cases of aortic regurgitation, and thought very highly of it.

Indeed, it is to his writing on the subject and to that of Dr. Herbert Habershon, that I was first induced to try this method in dilatation of the heart. Of course it is not always necessary to give the drug subcutaneously.

But supposing the muscle is a bad one, supposing, say, a fatty condition, Digitalis, Strophanthus, and the like, are not very valuable. Having made a diagnosis of such a case, you would hardly expect great results from Digitalis. Many people think it does absolute harm, and therefore you have to resort to Ether, Ammonia, Senega, and the like. It is, however, an exceedingly difficult thing to make a diagnosis of fatty degeneration of the heart; you can seldom be sure a patient has got fatty heart; many people do say so, but it is not easy for them to substantiate many of such diagnoses. In fibroid disease Digitalis is often of use, but fatty heart is so subtle a disease, the change is more diffused, and is extremely difficult to treat. I do not know anything that can be said to have any specific effect.

If, again, you have to do with air hunger associated with a hard pulse and that thick first sound or labouring action that is so characteristic of renal disease—a peculiar sound which I hope you will get into your head—of course your remedy is very different. Digitalis may be of use, as I think it has been in the case before us, but the things which reduce tension are those which are applicable here. Calomel is one of the best—a good calomel purge every night, or every other night. Mercury in another form, that of the blue-pill, may be given, which, as Dr. Broadbent has said, is one of the best nightcaps that he knows of; it relieves the patient, and a good deal of sleep is obtained. Another remedy, acting in a different way, is Caffeine in association with Benzoate of Soda, which acts excellently as a diuretic. I have seen a bad case of chronic gout and Bright's disease get more relief for this distress of breathing from Caffeine and Benzoate of Soda than from anything else. Diuretin, which would seem a very similar compound, is now used for the same purpose as the older combination of Caffeine and Benzoate of Soda. Then, of course, there are other remedies—the orthodox ones—given for the promotion of sleep, and these are really the most essential, and those which you will have to rely upon most largely. The others that I have mentioned are more radical and physiological, because they attack the causes of the symptoms, but these latter are

indispensable too. Chloralamide is not a bad hypnotic, and does not appear to have any depressing action on the heart; and, on the whole, it is one of the most valuable remedies for the insomnia of a failing heart that we have. I am very fond of paraldehyde also, although it proves as indeed all remedies do, disappointing in too many cases, yet in twenty minim doses three times a day, or at bed-time, and repeating it, a great deal of relief is sometimes procured. Last of all comes Morphia, and I think it is the best. I put it last, because we are taught to be afraid of giving morphia in renal disease, nor do I wish to induce you to be incautious, but there is no doubt that this danger is much exaggerated. Dr. Stephen Mackenzie has gone further, and even advocates the use of this drug in uræmia, and the cases he published showed good results under this treatment. You may use Opium with care, but should be careful of hypodermic injections; I remember one case, in which an injection of Morphia was given, who passed into a semi-comatose state and died. But, granting the existence of renal disease, you must bear in mind that in all these cases the distress is fearful; they are dying every time an attack comes, and even if there be a risk in giving Morphia, it is better to run it if with it comes the relief. I saw a case only three weeks or so ago; who had had all the drugs in the pharmacopœia, and where Morphia alone had brought relief. It is, perhaps, your last remedy, but it is your sheet-anchor, and, therefore, do not be afraid to use it, and use it hypodermically when there is a necessity, giving, say, one-sixth of a grain to begin with, feeling your way.

Now, one point about the general management of your cases, and it is a point of some practical importance. We are all guided by what we are taught, and medical men are apt to become very impulsive in some things. For instance, a patient asks for water, and the doctor says "no." And why? I don't know—perhaps because there is an idea that cold water "strikes inward," and it will hurt the patient. With regard to children particularly, I am always impressing the necessity of letting them have water if they ask for it. But in heart disease it is the matter of recumbency that requires mention. One sees these poor patients dying to get up, and yet being kept in bed. You should let them sit up in an armchair or recline in any position they like, and not drop into the preconceived notion that they get rest to their

heart, or to this or that organ by keeping in bed. They get more relief by attention to little details of this kind—relief which *they* feel and appreciate much better than we; as doctors, do—than may be supposed.

A CLINICAL LECTURE

ON

TRACHEOTOMY.

Given in connection with the London Post-Graduate Course
at the Hospital for Sick Children by

JOHN H. MORGAN, M.A. Oxon., F.R.C.S.,
Surgeon to the Hospital.

THE operation of Tracheotomy is one that should be familiar in all its details to everyone practising our profession in any department, since the necessity for its immediate performance may arise at all times, and in all places, without the chance of delay or even preparation. As may be readily supposed, the opportunities for studying its results, and of estimating its advantages, is very largely afforded by the practice of this hospital, and I shall presently quote to you the results which have been obtained in recent years. Most of us are familiar with the classical description of the operation given by Trousseau. At the time that he advocated so strongly the advisability of performing the operation in the early stages of diphtheria, the confidence of English practitioners was not sufficient to endorse his dictum, that "the earlier the operation is performed the greater the chance of success." Nevertheless, the practice of the present day goes very nearly to confirm all that he has laid down in this regard, and his lecture may still be read as the text of authority on the subject. Modern improvements have, of course, somewhat modified the details of the operation, but we can hardly anticipate a greater measure of success than attended its performance in his hands. He relates that, out of more than 200 operations, a quarter have been attended by recovery (but these successful results were not general, even in Paris, for, at the Hospital for Sick Children in that city, it was performed 215 times in five years with only 47 recoveries); so that it may be that the disease, as seen in Paris, was of a different type to that which we are accustomed to meet with in the present day, or that the trachea was opened in

cases which would have recovered had no operation been performed.

The objects to be sought by this proceeding are (A) to admit air by a free entrance at a point below the seat of obstruction, or (B) to allow the exit of foreign bodies which have passed through the larynx and lie, either free or fixed, in the air-passages below that spot.

The most frequent of the causes which, in the case of children, leads to the first condition is the disease, which, in order to avoid controversy as to the identity or otherwise of croup and diphtheria, is called membranous laryngitis. When patches of false membrane are to be seen upon the palate, the tonsils, or the pharynx, accompanied by more or less pyrexia, the spread of this exudation to the larynx is always to be dreaded and to be watched for. Fortunately, in a large proportion of cases, this does not occur, but so soon as to this condition hoarseness of voice and difficulty of breathing are superadded, the necessity of operation may at any moment become imperative.

This is, I believe, the view generally entertained by physicians who see much of this disease. So soon as the involvement of the larynx is indicated by hoarseness and dyspnoea, and after the first symptoms of laryngeal stridor have been observed the time for operation has arrived. Do not wait for further symptoms. Already you will notice the retraction of the lower parts of the thorax and upper part of the abdomen, in the effort to draw air through the narrowed aperture of the glottis, and every moment that you delay increases the danger to the patient. The lungs which are at first resonant throughout soon become dull toward their bases, and, as a consequence, the aspect becomes livid, the veins become distended, the muscles of the neck are in constant and strong contraction, and the struggles of the patient in the effort to draw air into the thorax are more and more violent. Delay is no longer admissible. By opening the trachea at such a time there is good hope of finding that the deposit of membrane has not descended below the vocal cords, and by giving the lungs a free supply of air the natural powers of the patient may be sufficient to arrest the further progress of disease. If, on the contrary, there be delay from any cause, the lungs, even without further extension of the membrane, become clogged and congested, and the trachea and the bronchi may be invaded by a spread of the exudation. Even then, though the general condition of the

patient will be far more serious as shown by the cold and livid state of the surface, and particularly of the extremities, the constant and profuse perspiration and the retraction of all parts of the thorax, the operation should be performed, so long as the patient is not actually moribund, not only because there is the chance that much of the exuded membrane may be coughed up through the opening in the trachea, and the lungs may thus gain an opportunity of vesicular expansion, but also to save the patient from the distress of dying from apnoea, so painful to the sufferer, and so distressing to those around.

All who have seen much of this disease are aware to what an extent the attack varies in individuals, and it has been observed of late years that the character of the epidemic also varies in intensity in different visitations. This struck me forcibly two years ago, when the events of the tracheotomies at this hospital were more than usually unpropitious, and I made inquiries at the time as to the results which had been obtained during that year at other London hospitals.

I found that the same fatality had resulted at all from which I could obtain information, and the general information prevailed that the type of the epidemic was more than usually severe. In that year, 1891, twenty tracheotomies for diphtheria were performed at this hospital with only two recoveries, a result very different from that which we generally obtain. Taking the last twelve years there have been performed, as I learn from the statistics kindly furnished to me by Mr. Kellock, 268 tracheotomies, of these 229 were for diphtheria, and 14 for laryngitis.

Of the cases of laryngitis some certainly may be presumed to have arisen in consequence of the presence of membrane, but keeping them apart from the cases in which a membrane was known to exist I find that seven out of fourteen recovered. Out of the 229 cases of diphtheria there were 54 recoveries, whilst 175 succumbed. In other words, there was a little less than one recovery out of every three operations. Nine patients underwent the operation on account of foreign bodies in the air passages, and of these six recovered and three died. There occurred five cases of growths in the larynx, and these were treated by one or more operations, with the result that three recovered and two died.

The statistics of various years show considerable differences in the results obtained: for instance, in

1888, out of twenty-one tracheotomies for diphtheria only one patient recovered. Whilst in 1892 there were ten survivals out of eighteen operated upon, and in 1884, the proportion was five recoveries out of eight operations.

These statistics concern only hospital patients, and taking into consideration the variation of the disease as regards its virulence in different epidemics are as satisfactory as could be expected, but they show how much more favourable are the conditions of a patient suffering under this disease in a hospital, where the operation can be immediately performed by experienced hands, who have all necessary apparatus on the spot, than those of a child suddenly attacked with the disease in its own house. There the practitioner attends the child until more urgent symptoms prompt him to call in a physician. One or more consultations are held, and at last it is decided to send for a surgeon to operate. This generally happens at night when the symptoms often become more aggravated. There is, therefore, all the more delay whilst the surgeon collects his instruments, and journeys to the bedside of the patient. Most of the tracheotomies that I have performed in private, have been in the suburbs, or at long distances from my residence; and I believe that my experience has been no more unfortunate than that of other surgeons, although in hospital cases I have had exceptional good fortune.

There are other factors which tend to unsatisfactory results besides the severity of the epidemic. Of these the age of the patient is the most decided. Although cases have been reported in which success has followed the operation in young children, it is seldom that it is successful under 2 years of age, and it may almost be said, that the more advanced the age the greater is the probability of success.

Of other conditions, which call for the operation in children, we may speak in a somewhat different tone. In them we have to deal with a local and not with a severe constitutional disease. Such are, acute laryngitis occurring spontaneously, or as the results of a scald, or following the contact with the tongue and fauces of some caustic material, or as a result of some erysipelatous inflammation of these parts. In all these, the conditions are more hopeful, because there is not the same subtle poison at work, and, however severe the rest of the symptoms of obstruction to respiration, so soon as air is freely admitted to the lung

passages, the patient, with proper care against bronchitis, ought to recover.

The occurrence of tubercular ulceration of the larynx is very rare in children, but I show you a specimen of these parts, which were removed from a child in whom I performed tracheotomy on account of the urgency of the dyspnoea. At the time, it was thought that the symptoms were due to the presence of warty growths about the cords, but the result showed them to be extensive ulcerations, which had almost destroyed the epiglottis and had invaded both the vocal cords.

Foreign bodies which pass through the larynx are of many sorts and shapes, and the full estimation of the symptoms which they produce, and the position which they occupy, may depend largely upon an accurate knowledge of the nature of the article. It is unnecessary to enumerate their varieties, which extend from puff-darts to pencil tops and half-sovereigns, and in estimating the fact of their presence it is very necessary not only to be sure that the article was certainly inhaled, but also, if possible, to get a duplicate of the body. Few questions in surgery are more difficult to decide than the actual presence of a foreign body, or its position when present. In children this is even more difficult than in adults, who can give aid by a description of their sensations, though this is often in hysterical persons very misleading. The position of the substance is often determined by its nature, small and light bodies being coughed up into the trachea, and when coming into contact with the larynx, setting up violent and sudden spasm. When possible, the laryngoscope should be used to ascertain if the body be lying in the larynx itself.

If it have passed through the glottis and lie loose in the trachea, some physical signs may be present besides those of irritation, but if it pass on into the bronchi, more often on the right side than on the left, the physical signs are generally more positive, and become more and more so as the hindrance to full expansion of that portion of the lung from which air is excluded becomes more marked. Time does not permit of our going into the many details which have to be considered in diagnosing the presence and position of these bodies. Suffice it to say that tracheotomy must be performed at once, and at as low a spot as possible, and generally with a free opening. No tube should be inserted, but the edges of the wound must be kept apart by wire sutures or by

blunt hooks, so that the substance may at any time escape, either by the coughing of the patient or by the help of succussion and inversion. Should these again be insufficient the body must be sought for by a probe, and attempts made to remove it by means of forceps, or a wire bent so as to catch and withdraw the substance.

Lastly, the operation is occasionally called for by the existence of new growths in the larynx, or in the trachea, immediately below the cords. Whether these growths are congenital, or whether they gradually develop from soon after birth cannot be stated, since the symptoms to which they give rise are of very gradual onset. In course of time, however, the dyspnoea becomes confirmed, and spasmodic attacks occur which threaten life so seriously that the trachea requires to be opened. This may be done in the usual way, and a tube inserted, or the incision may be extended upwards so as to constitute the operation of thyrotomy, and the growths removed.

I have within the last few years operated on three children for this affection. Two of them I shall show you directly as having perfectly recovered. The third child promised to make a good recovery from the operation, but unfortunately was attacked by diphtheria, from which she succumbed. The elder of the two patients was aged 2 when first brought to the hospital, where she was under the care of Dr. Barlow. She had suffered from hoarseness, which gradually increased from the age of 11 months. Her condition becoming desperate I performed the usual operation of tracheotomy, and removed a number of growths from the mucous membrane below the cords. The symptoms soon after recurred, and I divided the thyroid cartilage, and scraped away a fresh crop of similar growths. They continued, however, to recur, arising at each time from a part of the mucous membrane below the site that had previously been cleared. Various means were tried to check their recurrence. Caustics such as chromic acid were used, and on two occasions I seared the mucous membrane with the galvanic cautery. In all the operation was repeated eight times, and the last batch of growths was removed from the bifurcation of the trachea and the commencement of the two bronchi. The child has now been in excellent health for some time, though she has as might be expected some stenosis of the trachea at the site of these many operations. There is a specimen under the microscope of one of the growths. You

will see that it has all the usual characteristics of a papilloma, and is covered by a thin layer of cells, some of which when removed were found to be ciliated epithelium.

I have already indicated that, except for foreign bodies which are impacted in the lower part of the trachea, or in one of the larger bronchi, the operation should be performed at as high a part of the trachea as possible. In children the subcutaneous tissue contains so much fat that the apex of the cricoid cartilage cannot always be easily felt. But this must be clearly made out before commencing the operation, because below it there lies a small space of the trachea which is nearly superficial, whilst a very short distance below is the isthmus of the thyroid gland, besides the branches of the anterior jugular vein. Having, then, made every preparation, having seen that the instruments—which consist of a scalpel, dissecting forceps, two double-hooked retractors, a steel director and a sharp hook, with the usual number of clip forceps and ligatures—are all ready to hand, the patient may be placed on the table in the best available light. The cases are very few in which it is not advisable to administer a small amount of chloroform, not only to prevent struggling during the operation, but to allay the spasmodic breathing and the violent action of the muscles of the neck, but also to lessen the distension of the veins, and so diminish the delay which may ensue from hæmorrhage. As soon as the anæsthetic has produced these results, the neck should be well raised by a sandbag or similar contrivance, and the operator must steady the trachea below the cricoid between the thumb and finger of the left hand. By laying the back of the scalpel along the skin of the neck, between the manubrium and the apex of the chin, he will see exactly the middle line in which his incision should be made. Owing to the mobility of the skin it is very easy to make the incision very far wide of the proper line, which leads to considerable trouble in the latter parts of the operation. The skin being incised for $1\frac{1}{2}$ inch. downward from the upper border of the cricoid cartilage, the interval between the sternohyoid muscles is seen, and by incising this with or without a director the fascia covering the trachea will be exposed. This may be picked up and divided transversely so as to admit the handle of a scalpel or a hernia director, by means of which the isthmus of the thyroid can be pushed down and the rings of the trachea exposed. The

parts should be well separated by the retractors, and all bleeding points secured. So soon as the white rings of the trachea can be seen, the opening into them may be made, with the edge of the knife directed upwards, and two or three upper rings divided. Care must again be taken that this opening is not made to one side of the middle line, and for this reason I prefer, if possible, to dispense with the aid of a sharp hook for fixing the trachea, which is apt to cause the incision to be lateral. Once the trachea has been sufficiently opened a rush of air, accompanied by mucus, and perhaps membrane, takes place. If no venous bleeding is going on, the wound may be kept open for a short while by retractors, and the tube inserted at leisure; but when there is any chance of blood entering the trachea the tube should be at once inserted and left there until, after a few respirations, the veins become less engorged and all oozing ceases.

Generally, and with the aid of chloroform, these proceedings can be carried out deliberately and without hurry, but it may happen that the child collapses during the operation, when the trachea must be opened without full inspection, and the finger must be used as a guide for the knife, and artificial respiration commenced as soon as the tube is inserted, and continued so long as there is any hope of restoring the patient. So soon as possible in all cases efforts must be made to rid the trachea of any false membrane that may have formed within it. Not only may this membrane block the lumen of the trachea, but it may be pushed down by the tracheotomy tube as soon as it is inserted. This is best effected by passing feathers down into the bronchi so as to loosen the membrane and excite cough, the edges of the wound being meanwhile held apart with retractors, or failing this, the tracheal aspirator of Mr. Parker, which is here shown, may be used.

The proceedings are much the same when the operation is performed at a lower point in the trachea, but the greater depth at which it lies, and the larger number and greater size of the veins, makes this a much more difficult proceeding. The isthmus of the thyroid if divided strictly in the middle line, offers no formidable difficulty, and when performed for foreign bodies in the bronchi, the opening of the trachea must be extensive, and the edges sewn to the lips of the skin wound, whilst the search for the foreign body is proceeded with.

I place before you a number of tubes of various patterns; the ones most useful in the first instance are those which can be introduced, closed, and are expanded by passing in the inner tube or canula, by which means the need of a dilator is dispensed with; but for a more permanent use, a tube such as the one devised by Mr. Parker, is certainly more reliable, because, instead of being of the usual curve they are bent at such an angle as to avoid the risk, which is a real one, of causing ulceration of the anterior wall of the trachea, by impinging upon it with their lower extremity. These and other points I shall illustrate at the close of the lecture.

A case of tracheotomy depends upon the after treatment more than even on the first part of the operation for its success. The patient must be surrounded by a warm and moist atmosphere and protected from all draughts. A tent or a sufficient screen must surround the bed, and a steam kettle may be used to provide a moist atmosphere. The tube must at intervals be removed, and a feather passed down the trachea to dislodge any fresh deposit of membrane. This is more effectual if the feather is moistened with a solution of Sodæ Bicarb. The throat and fauces should be sprayed frequently with a weak solution of Hyd. Perchlor. or Liq. Sodæ Chlorin. The tube requires most careful watching, especially after the first few hours, because the mucus secreted by the air passages is of a peculiarly tenacious character, and soon forms a lining to the inner surface of the tube, which can only be removed by soaking and cleansing in an alkaline solution. The outer tube must also be removed occasionally by the surgeon, to guard against ulceration of the margins of the wound. The feeding of the patient is often a matter of some difficulty, as the presence of the tube renders swallowing both difficult and painful, and every care must be taken that a proper amount of nourishment and of stimulant is given, even if it be necessary to resort to feeding through tubes passed by the nares.

The final removal of the tube calls for the greatest care and judgment. In general terms it may be said that it should be removed at the earliest possible moment, but there may be many obstacles to this even after all membrane has ceased to be formed. The two most formidable of these are the accumulation of granulations which form around the edges of the wound and often

spread upwards to the under surface of the vocal cords, and the paralysis of the muscles of the larynx which follows from their being too long inactive. To prevent this I use a tube with an aperture on its convex surface that allows some air to pass through the larynx. This can be made either of silver or of india-rubber, and by applying for intervals a stopper of cork to the natural opening of the tube, the larynx is gradually brought to resume its proper functional state. When this is due to mere nervousness on the part of the patient these buttons, which resemble a tracheotomy tube except that they have no aperture, are of the greatest value. Granulations may have to be removed by a small sharp spoon or some mild caustics.

Some few years ago the plan of intubation of the larynx after the method recommended by Dr. O'Dwyer was largely discussed in the Medical Journals, and was given a free trial at this hospital. Previous to this Dr. Macewen had used tubes resembling gum elastic catheters, which were passed through the larynx from the mouth, and removed at intervals of about twelve hours for cleansing. The whole apparatus recommended by O'Dwyer you see before you, and the method of introducing the metal tubes I shall be pleased to show you. The advantages claimed for this plan of treatment are that there is no wound or operation, that no chloroform is required, and that therefore the friends will consent to this when they will refuse permission for tracheotomy. Further, it is urged that the air entering the lungs is warm and moist, that the tubes are self-cleansing, and that there is no prolonged after-treatment. But the results of this plan as far as our experience has gone is disappointing. There is danger lest the membrane may be pushed down when introducing the tube, or that the mucous membrane of the trachea or vocal cords may be lacerated. Then again the tube may be coughed out or may slip into the trachea. The tube itself may become blocked with membrane or mucus. Again, not only does the presence of the tube interfere greatly with the patient's ability to swallow, but there is great danger of liquid food passing through it into the air passages and setting up pneumonia.

In certain cases this method may be recommended, such, for instance, as cases of dyspnoea without any membrane, or in cases of spasmodic croup, or laryngismus stridulus. Again, it is some-

times a useful plan to follow after tracheotomy has been performed, and where there is difficulty in dispensing with the tracheotomy tube. But with these exceptions the plan has not given such satisfactory results as were promised.

Demonstration of cases, instruments and preparations followed the lecture.

A LECTURE

ON

THE MANAGEMENT OF LABOUR.

Delivered at Guy's Hospital,

By PETER HORROCKS, M.D., F.R.O.P.,

Assistant Obstetric Physician to Guy's Hospital.

GENTLEMEN,—It is a good thing that more than 90 per cent. of midwifery cases are natural, and that women are capable of delivering themselves safely, without any assistance whatsoever. And although most women, however poor they may be, are assisted more or less either by a doctor, a midwife, a monthly nurse, or at least by a female friend, yet the fact above stated remains true, and has an important bearing on the Management of Labour. The mere presence of help at hand gives a woman courage, and so it is a good thing that so few are left entirely to their own resources in their hour of travail. Women generally select as their attendant some one in whom they have faith, and occasionally it happens that the patient has more faith in the doctor than he has in himself. I have been greatly struck with the wide differences met with amongst accoucheurs in their management of a case of labour. Some are very fussy, and never leave the patient for a minute; they are either stimulating the uterus through the abdomen, or examining to see how matters are progressing, even though they know that everything is quite natural, and that the patient is healthy and in good condition. Others are careless in the extreme, giving no advice, no encouragement, and no help of any description. Of the two I prefer the latter, but I think there is a happier middle course.

In attending a woman in labour, the most important matter for the accoucheur to attend to, is the state of his own hands. Are they clean? Are they aseptic? They should be clean, that is they should be washed and scrubbed and soaped

until all dirt be removed. They should be aseptic that is they should be dipped for at least one to two minutes in some antiseptic germicide solution. The most fashionable, and perhaps the best, is a solution of Perchloride of Mercury. There are many others, such as carbolic acid, iodine water, Condy's fluid, etc.

Every accoucheur must adopt his own plan for attaining these most important objects, namely, cleanliness and asepsis. I should be travelling too far beyond the boundary of my present subject, if I were to discuss the many important issues arising out of this important point, but I cannot leave it without asserting, as strongly as I am able, that if a man's hands are not clean, and aseptic, he is unfit to attend a woman in labour. Our own students are provided with a box-bottle, *i.e.*, a glass bottle contained in wooden case with wooden cap to screw on. The glass bottle contains about half a pint of a solution of Perchloride of Mercury, one part of Mercury to five of distilled water. They are then able to make a solution of any desired strength. As a rule, a solution of 1 in 1000 is used for the hands. I always take a similar bottle in my obstetric bag.

When the doctor arrives he should ask a few questions, and make a few observations while the nurse is getting some hot water in two basins. When did the pains begin? how frequent are they? are they in front or at the back? Has there been any "show"? Have the "waters" come away? Feel the pulse, look at the tongue, note the features, etc.

Then wash the hands with soap and the water in one of the basins, using a clean nail brush. Next dip the hands into the water in the other basin, having previously added whatever antiseptic is chosen.

The patient is, meantime, placed on the bed, either on the back or on the left side, and a vaginal examination is made. Care should be taken that any vaseline, or oil, or other unguent used to grease the finger with, is quite clean. In many houses amongst poor people, lard or butter is brought, but it is better not to use these if they can be avoided, and it is as well to carry some preparation with you, such as thymol, vaseline, carbolic oil, etc.

The condition of the vagina and the os uteri, and the presenting part are noted, and if a "pain" comes on during the examination the membranes will be felt to tighten and to bulge more or

less through the os uteri, unless they have been ruptured previously. If the bladder is distended, the urine should be withdrawn if the patient is unable to pass it.

If everything is found to be normal, there is no need for interference. It is here where meddling midwifery is bad. If a man be in a hurry it is far better that he should go away and leave things to nature, rather than rupture the membranes or put on forceps for the mere sake of expediting matters. A practitioner once told me that he used the forceps in about 85 per cent. of his cases, but he admitted that it was to save his own time. I do not think such a reason justified him.

Finding all straightforward, he should acquaint the patient with the fact, and so relieve her mind. She is almost sure to ask how long it will be; and this is a very difficult question to answer, particularly in primiparæ. But it is a very important question both to the patient and to the doctor. If he can be quite sure that it will take at least another hour or more, he may be able to leave and fulfil some other appointment. But every practitioner knows, to his cost, how deceptive some cases are. He leaves the house after assuring them that it will be hours yet, and as soon as he is gone the pains begin to increase in number, length, and strength, and the child is born in less than half an hour, much to the chagrin of the doctor on his return. It is impossible to lay down any rules. But, generally speaking, one may say that if the os uteri is fully dilated the accoucheur should stay, even though the membranes are unruptured. He should always stay when the membranes are ruptured in natural labours. If the os uteri is not fully dilated, it requires some knowledge and experience to be able to judge. In primiparæ it is, as a rule, safe to leave for an hour or more according to the size of the os, the number, length, and strength of the pains. In multiparæ there is greater variety amongst different women, and in the same woman at different confinements. But a careful examination between and during the pains, and a consideration of the pains themselves will enable one to arrive at a fair estimate as to the time it will take before delivery is accomplished. If you should ever be in such a predicament that you wished to go away to do some other work, but were afraid you would not be back in time, then I recommend you to stay.

Many women find it a comfort to have firm

pressure made on the back during a pain. Most women like to take hold of something with their hands, such as a towel tied to the foot of the bed, and it is a help, inasmuch as it enables them to bear down with greater force. Emotional women often cry out excessively, but they should be encouraged to hold their breath and not to cry out during the pains.

The suffering is very unequally borne, but I always avoid chloroform in natural labour if I can, and it is very seldom, indeed, that I give it in such cases. Still, it is used frequently by some, just enough being given to take off the acuteness of the pains. If the pains are good and frequent there is no need to stimulate the uterus in any way. But if they should be weak or infrequent they may be encouraged by friction of the uterus through the abdominal wall.

Many plans for preventing rupture of the perinæum as the head passes through the vaginal orifice are given, but the best plan of all is to let it alone. I do not believe that there is any plan which will prevent it in most cases, and the only help that seems to be of real use, is when between the pains it is possible to slip the perinæum back over the forehead.

When the head is born, the neck should be immediately felt, to find if the umbilical cord is round it. If so, it should be liberated as quickly as possible by drawing it down sufficiently to slip over the head. Sometimes the expulsion is too rapid to permit this, in which case hæmorrhage may occur through pulling upon the placenta. As a rule, however, the cord is unusually long in these cases, and so the placenta is not injured. The child's mouth should be wiped to clear away mucus clots and meconium, if any. The cord is generally felt pulsating, and if it is normal in frequency it may be tied twice, 2 and 3 inches respectively from the navel, and cut between the ligatures. If the pulsation be slow it is sometimes better to wait a few minutes before tying the cord, in order to allow the circulation to recover itself before starting the infant's own respiration by cutting off the communication with the placenta.

The child is handed to the nurse as soon as respiration is established, and the doctor now turns his attention to the patient. He looks to see if there is any hæmorrhage, also feels the pulse. If there is no bleeding of consequence, and if the pulse is good and under 100, he may be sure every-

thing is right. There is no harm in feeling the uterus through the abdominal wall, but if it is not particularly hard he need be in no alarm, and it is better not to squeeze it. In from fifteen to thirty minutes the uterus will begin to contract again, and the placenta will be expelled either into or outside the vagina. I advise you to wait at least fifteen minutes after the birth of the child before trying to deliver the placenta, if the patient is all right. And then if you interfere, Cr  d  's method of suppression is the best and most scientific. The fundus uteri is grasped by the hand, and pressure is made almost in the same way as in squeezing a large sponge. Considerable force is sometimes required, but if it fails it is better to wait another five minutes or more. If there be no abnormality, no adhesion, no hour-glass contraction, this pressure is almost sure to succeed in the end. If it fails then it is necessary to pass the finger or fingers into the uterine cavity, more or less of the hand being in the vagina, to separate the placenta, and it may be necessary to give chloroform to do this. When separated it should then be expressed from outside, and not pulled out either by its edge or by the cord. When the placenta is born the membranes can be best extracted by twisting them more or less into a rope. The uterus can now be felt through the abdominal wall now hard like a cricket ball and now soft and indefinable. This alternate active contraction (hard state) and passive relaxation (soft state) goes on in a rhythmical way, and is purely physiological. Many accoucheurs are terribly alarmed when they are unable to feel the hard uterus, although there is no h  morrhage, and they begin to rub away as if for dear life, but it is quite unnecessary. This condition of relaxation without extension is called *retraction* of the uterus, and as long as that is maintained, there is no excessive post-partum h  morrhage.

The perin  um is almost invariably ruptured more or less. Some accoucheurs put in one or more stitches in every case, others never use a stitch of any kind. They find that if the rent be moderate it heals very well without stitches, and if it be extensive stitches are often useless, and a second operation is required. Personally, I use stitches in the moderately severe cases only, that is where the tear has involved more or less of the sphincter ani. But if it has not involved this, or if it has extended up the recto-vaginal septum I leave it, the former healing well, and the latter, if it does not heal, being left for a future occasion. As

a matter of fact, in very few natural labours do I find it necessary to use any stitch.

The binder is so universally used that one feels diffident in suggesting that its utility is more imaginary than real. But I think Herman and others have shown that cases do just as well whether a binder be used or not. Moreover, they do not suffer from prominent bellies in greater proportion than other cases. Nevertheless, I always use a binder myself, because I find that women derive comfort from it; they feel loose and ready "to fall to pieces" without it. It may, also, have a real value in increasing intra-peritoneal pressure, and so, to some degree, preventing extension of the uterus.

Many accoucheurs give Ergot as a routine practice. I do not recommend it. I never give it in natural labour. Again, now-a-days, many advocate routine syringing of the uterus immediately after the birth of the placenta, and of the vagina twice daily for some days after the parturition. I recommend you to do nothing of the kind. If everything is normal why inject your antiseptic? There is just a possibility that the syringe itself might not be clean, and so you would be running the risk of introducing the very poison you were trying to get rid of. I only wash the uterus out in abnormal cases. Neither do I allow a nurse to wash out the vagina as a routine practice in normal cases. It is unnecessary, and although it has answered well in reducing the number of septic  mic cases in lying-in hospitals, yet the conditions are different from those of private cases. I find that nurses who are trained at these lying-in hospitals are greatly impressed with the idea that vaginal syringing is absolutely necessary in all cases. I am sure I have seen cases made worse by the syringing. A clean napkin is applied to the vulva, and the patient is allowed a little warm beef tea or milk to drink. Warm drinks are much better than cold, just after parturition. The mother should be allowed to see and touch the baby and hear it cry. Maternal impressions are made which have an excellent reflex character upon the uterus. If the child be dead, the mother should not be told for some time, because grief promotes h  morrhage.

Just before leaving his patient the accoucheur should examine the pulse; if this be good, and under 100, he may consider his patient safe.

CLINICAL NOTES.*(Specially reported for The Clinical Journal. Revised by the Author.)*

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**WITH MR. WALSHAM
IN THE ORTHOPÆDIC DEPARTMENT OF
ST. BARTHOLOMEW'S HOSPITAL.****Some Cases of Flat Foot,**

In this patient the trouble is due to rheumatism. She has had subacute rheumatism which has led to certain changes in the fibrous tissue, of what nature we do not quite know, producing a weakness, or want of resistance in the ligaments. You diagnose a case to be Rheumatic Flat Foot, not only by the history of rheumatism, but also by the effusion in the sheaths of the tendons so commonly present about the inner and outer ankle. In this patient it is not very pronounced, but yet you can see there is some effusion in the situation of the posterior tibial tendon. Rheumatic Flat Foot is merely a subdivision of a large group called Static, as they are due to giving way of the ligaments in those compelled to stand much.

The other great divisions adopted for the convenience of classification, are Rickety, Congenital, and Traumatic. In all probability those coming under the head of Traumatic are cases in which there has been slight flat foot previous to the rupture of the ligaments. For clinical purposes flat foot has been divided into three degrees, but there is of course no hard and fast line between these degrees or stages; the one passes insensibly into the other. (1) In the so-called 1st degree, or early stage, the foot is fairly supple, and the arch is restored on standing on tip-toe and on the outer edge of the foot. This patient presents this degree in one foot, being able to completely evert the foot so as to stand on the outer edge; (2) In the 2nd degree, or advanced stage, there is some rigidity, as in the right foot of the same patient, where you can see the peronei standing out tense and prominent behind the outer ankle. The difference is well illustrated when she stands on tiptoe. You see that in the left foot (1st degree) the arch is restored when she stands on tiptoe, but in the right foot (2nd degree) this is not the case. The 3rd degree is a late stage of the 2nd, in which bony outgrowths play a part in producing the rigidity of this degree. We shall see a case presently.

The feet present the typical appearance of this condition. The arch has more or less disappeared; the foot looks longer than usual; and on the inner side you see three prominences corresponding to the internal malleolus, the scaphoid, and the head of the astragalus.

The treatment I adopt varies with the degree of flat foot present.

For the 1st degree I rely on exercising the limb and on the wearing of a suitable boot. I order the three forms of exercise for which we are so much indebted to Mr. Ellis, of Gloucester, and Mr. Roth.

(1) The patient standing with the heels a little apart and the toes pointing inwards to a very moderate extent, keeps elevating himself on tiptoe, and then letting himself down again. The object of this is to strengthen the muscles of the foot, especially the flex. long. pollicis and the flex. long. digitorum, which are compared by Mr. Ellis to bow-strings for the part they play in supporting the arch of the foot. The patient must not, however, stand for any time on tiptoe; it is the act of rising on tiptoe that does the good. This exercise should be carried out for five minutes at a time, three times a day.

(2) The patient should stand flat on the soles, and then rapidly evert the feet so as to stand on the outer edges, quickly coming back to the soles. This lateral movement should also be kept up for five minutes.

(3) The patient sitting down with legs crossed, circumducts the elevated foot at the ankle. Each foot should be exercised this way in turn; this exercise should also be carried out for five minutes. All three exercises should be performed two or three times a day.

The requisite features of the boot are: it must be straight along the inner edge, the toe should be broad enough not to cramp toe-movements, the heel should be low. The inner edge of the sole should be thicker than the outer edge, it should be a lace-up boot, and should, when laced up at first, have a gap of half to three-quarters of an inch to allow of it being laced nearer, as the leather stretches. A valgus pad or a surgical sole should be fixed in the boot; I prefer the pad, as it does not necessitate so cumbersome a boot as does the surgical sole. I use two forms of pad; one, a proper shaped india-rubber bag filled with glycerine, is most comfortable and suitable for private patients, but they are not strong enough

for our out-patients, so I order them pads made of solid india-rubber. Though hard at first, they soon become soft when worn.

For Cases of the 2nd degree.—In rheumatic cases I have the foot strapped with Ammoniacum and Mercury plaster or Scott's dressing till the effusion about the tendons around the ankle has disappeared. This takes, as a rule, from two to three weeks. The foot is then treated according to the stage it is found to be in. For early second stages, massage, rubbing with stimulating liniments, such as the compound camphor liniment, and manipulations of the foot are usually sufficient. For the later degrees of the second stage I wrench the foot under an anæsthetic and put it up in plaster of Paris. When the deformity is converted into one of the 1st degree, that is to say, when it has become supple, then the exercises ordered for the 1st degree are commenced. I do not think, however, that the boot described for the 1st degree is suitable to these cases, and so I order for them a special boot.

This boot is provided with the ordinary outside valgus iron and valgus T strap, and, in addition, has a strong flat rubber band passing from the outer edge of the boot below the sunken arch, and secured by a leather strap to the calf circlet. This band, which lies, when in position, between the sole of the foot and the boot, braces up the arch and exercises on it continuous elastic traction.

A Case of Flat Foot in the late 2nd or early 3rd degree.—This case shows well the early 3rd stage. The wet blotting paper impression taken shows that practically the whole of the under surface of one foot touches the ground when standing, and almost the whole of the other. I cannot, by ordinary manipulation, restore the arch, owing to changes in the bones. No massage will convert this case into one of the 1st degree. It will be necessary to "wrench" when the patient is under chloroform. The foot being wrenched into position, it is put up in plaster of Paris in a position of slight extension and extreme inversion, being left like that for a month. There are two points to remember in putting up such a case: (1) be sure and cover the foot and ankle with plenty of evenly applied cotton wool (I use cotton wool rolled up in lengths 3 inches wide, like a bandage, as it is easier to apply in this way); (2) as the patient has to get about on the foot, put an extra thick pad under the heel, and make the plaster thicker there so as to make a heel to the

plaster case. There is no pain or discomfort about the bandage, and you heard a patient who had been treated this way say that the bandage was neither painful nor inconvenient. Where wrenching does not seem suitable it becomes a question of operating by some of the methods generally advocated, such as Ogston's, Stokes' or Trendelenburg's.

My own impression is that such operations are but seldom required, wrenching being applicable to most cases. Out of 1,100 cases of flat foot seen in this department by me, wrenching has been done in about 120 cases, Ogston's operation in but one. The object of the wrenching is to convert flat foot of the 3rd (or late 2nd) to the 1st degree. When that is done the treatment for the 1st degree must be carried out, and the boot for the 2nd degree worn. There is another clinical point about this case; he tells us that the peronei tendons were cut elsewhere to relieve their tension. I believe this is always a mistake, and am inclined to attribute the extreme condition present in this case, at any rate partially, to such having been performed.

We have here a boy, who may now be regarded as cured. He came to me in January, 1892, a little over twelve months ago, with flat foot of the late 2nd degree. The treatment I have described was carried out, and after the foot was converted into the 1st degree, he persevered in his exercises well for the first few months, but towards the end of 1892 he neglected the treatment, both as regards performing the exercises and wearing the suitable boot. He came here complaining of pain; I explained to him the importance of carrying out the treatment properly, with the result that he has done so, under the supervision of my senior assistant, Mr. Kent Hughes, and is now practically cured. There is no deformity, and he can perform the exercises well.

To be successful in treating these cases you must encourage them to persevere with the treatment. If you feel confidence you will inspire confidence, but if you are half-hearted and not very definite in your instructions, the patients will equally be influenced by your state of mind. As to the time for which the treatment should be persisted with, it may be said that after wrenching the foot should remain in plaster for a month. At the end of that time it should be taken down, and if not found satisfactorily supple, again wrenched and put in plaster for another month. For very bad cases a third wrenching may be required, but

we have always succeeded (except in one case), sooner or later, in this way in making the foot supple. After this result has been obtained, the boots should be worn for eighteen months to two years, and the exercises performed a little longer. Relapses amongst out-patients are not uncommon, seeing that after their cure the patients often have to return to their employment, necessitating long hours of standing—the main cause of the condition.

To sum up briefly the treatment for the different degrees:

1st degree.—Exercise; three forms.

Rest, that is to say, abstention from prolonged standing.

1st degree boot.

2nd degree.—Manipulation, and rubbing with liniment, thus converting it to 1st degree; then

Exercise; three forms.

Rest.

2nd degree boot.

3rd degree (or late 2nd degree).

Wrenching under an anæsthetic.

Foot in slight extension and extreme inversion in plaster of Paris for one month, thus converting it to 1st degree; then

Exercise; three forms.

Rest.

2nd degree boot.

Where necessary operate by either Ogston's, Stokes' or Trendelenburg's methods.

Hallux Dolorosus.

This young man complains of pain when the great toe is bent. The pain is more severe when the toe is flexed than when it is extended, but there is practically none when the toe is moved laterally. It is a common condition, associated with flat-foot, when too short a boot is worn. Neither flat-foot nor a short boot alone is sufficient to cause it. The two combined, in my opinion, are the essential factors. As to the exact cause of the pain we are ignorant. It is an awkward accompaniment of flat-foot, as the patient cannot perform the tiptoe exercise, though the other two are readily done. In this case I shall order him to carry out the two last exercises, and to wear a 1st degree flat-foot boot. With a proper boot the condition always subsides, as far as I know, though it may take some months to do so.

A Case of Kyphosis.

This girl, æt. 17, presents marked Kyphosis. We must first ascertain if it be due to caries. You observe that on stooping forward, on making lateral swaying movements, and on looking over her shoulders, there is perfectly free movement of the vertebræ. This is one point against caries, at any rate, when sufficiently advanced to produce such deformity as is present here. On jumping from a height, on pressure on the shoulders there is no pain. Sayre's test, of pressing on the angle of the rib so as to make direct pressure on the diseased vertebral body does not help us here, as the spot in which the pain is felt is in the lumbar region, and pressure on the transverse process of the vertebra has not the same value as pressing on the rib. When the transverse process is pressed on, the pressure is diffused over the posterior segment of the spine, not concentrated on the body, as in the case of pressure on the rib. This absence of pain is against caries. There is nothing in her history or appearance suggestive of tuberculosis. She is a general servant, has had to carry heavy weights for some time, and I regard it as a case of "tired spine," with Kyphosis from excessive weight-bearing.

Such a case is difficult to treat as an out-patient. The treatment for such a case should be rest from all heavy work. She should lie on her back for half an hour four or five times during the day. Suitable muscular exercises must be employed. If a brace is worn to keep the shoulders back, it must only be worn two or three hours a day. If patients wear them always, they become substitutes for the muscles. If for two or three hours only, they encourage the muscles to fulfil their functions.

An old Case of Spinal Caries.

This case is interesting to contrast with the one just seen; observe that when performing the same movements the vertebræ remain rigid. It is a case of angular curvature. She came to me eleven years ago, when only 5 years of age, and has worn since then a poroplastic jacket. Her mother brings her to-day saying she is worse, and on being questioned states that the deformity is worse, and that there is a return of pain. Does this mean renewed activity of the disease? In the first place, as to the increased deformity, I do not think there is any increase of the angular curvature, but there is increase of the compensating curves which

makes the angular curvature seem more prominent. This is a point to remember, as it is a practical question you may have frequently to decide. It is by no means uncommon for friends and parents to mistake the apparently greater prominence due to increase of the compensating curves to increase of the trouble. Now, as to the pain, there is no pain when I press on the shoulders or on movement *when the jacket is off*. You can see a red inflamed patch of skin over the spinous processes of one of the lower dorsal vertebræ; when I touch it she winces, and tells me that is the pain she feels. That is to say, the so-called return of pain is pain experienced owing to the pressure exerted at this point by the jacket, which has become too small. The case seems to illustrate the importance of being alive to such points. She will get a new jacket, and the pain will disappear.

A Case of Incompletely United Fracture in a Rickety Child.

This case is very interesting and well illustrates how easy it is to make a wrong diagnosis. This leg presents a deformity more than suggestive of rickets, there is a prominent forward curve of the bones. You can feel beads on the ribs, enlargements at the wrists, the forehead is square—all symptoms of rickets. When, however, you hold the leg above and below the curve you can get movement and something resembling grating. His mother states that two years ago he had a fall, and was taken to a hospital, where splints were applied. We may assume, therefore, that there was a fracture. The deformity came since then. I have, on several occasions, seen ununited fractures in children mistaken for the deformity of rickets.

As to the treatment, the child should be admitted to the wards, and the limb straightened under an anæsthetic, and then put up in plaster of Paris and left so for a long time. It is well known that the different operations proposed for ununited fracture are very unsuccessful in children.

A Case of Paralytic Calcaneo-Valgus.

This is a characteristic case of Paralytic Calcaneo-Valgus, due to paralysis of the calf muscles. The affected foot is everted; when asked to stand on tiptoe, you see that he can do so on the unaffected but not on the affected foot, as the muscles in the latter case are paralysed. You

cannot make the tendo Achillis tense, owing to the wasting of the calf muscles; there is an increase of the arch, the front part of the foot dropping downwards at the transverse tarsal joint.

The first question to determine is whether any portion of the affected muscles remain intact, or whether they are wholly converted into fat. This will be determined by their electrical reactions. In testing the muscles, if you are not careful you may mistake reaction in the deep calf muscles for reaction in the gastrocnemius and soleus. When the poles of the battery are applied the foot moves in the direction of plantar flexion, due to the current passing to the deep muscles. You must make certain that the Achilles tendon is made tense, to be sure that some portions of the gastrocnemius and soleus are intact. If the prognosis is good on this point, I shall take the case in and shorten the tendo Achillis, but if the electrical reactions show that the muscles have undergone complete fatty degeneration, it is useless to shorten the tendon, since the muscle yields and the tendon is drawn out with return of the deformity as soon as the patient walks after the operation.

I formerly shortened the tendon by the method of removing half an inch, and then splicing with kangaroo-tendon ligature. In the last case of the kind I transplanted the tubercle of the os calcis with the tendo Achillis attached about three-quarters of an inch lower down, thus shortening the tendon to this amount. The advantages of this method is that no risk is run of the ends of the shortened tendon not uniting. The transplanted tubercle is fixed by an ivory peg to the calcis.

Snuff for Acute Coryza. (*Med. Record*):

R. Menthol. ... gr.vj
Acid. Boric. (Pulv.) ... ʒij
Bismuth. Subnit.
Benzoin. (Pulv.) ... āā ʒiij

M. A pinch to be taken five or six times a day.

Itching Affections of the Skin. (*Nov. Rem.*):

R. Salol.
Menthol. ... āā gr.x
Plumbi Carbonat. ... ʒss
Vaselini ... ad ʒj

M. Ft. unguent. To be applied five or six times a day.

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A CLINICAL LECTURE

ON

A Case of Chorea and Pericarditis, a Case of General Paralysis of the Insane, a Case of Mitral Disease with Spasmodic Dyspnoea, and a Case of Cardiac Dilatation.

Delivered in the Wards of St. Mary's Hospital,
March 1st, 1893,

By D. B. LEES, M.D., F.R.C.P.,

Physician to the Hospital, and to the Hospital for Sick
Children, Great Ormond Street.

CASE I. *Chorea. Absent Knee-jerk. Pericarditis.*

This little girl was admitted on January 17th, 1893, suffering from Chorea of moderate severity. The first point worth noticing about her is that the knee-jerks were absent. This condition is occasionally found in chorea, sometimes in quite mild cases, and I am inclined to think that it is evidence of some toxic influence acting on the nerves or nerve-centres, analogous to that which undoubtedly is present in diphtheritic paralysis, and frequently in cases of diphtheria without paralytic symptoms. It suggests that the chorea itself may be due to a blood-poison acting on the cortical motor cells. The next point has reference to the heart. There was a systolic murmur at the apex, but the impulse was normal and the cardiac dulness not at all increased. Such a murmur in choreic children may be of a temporary character, disappearing with the chorea. No history of rheumatism could be obtained, and there were no definite symptoms of this disease, that is to say, there was no joint affection, no nodules to be found in the usual situations, no erythema and no tonsillitis. It was somewhat vaguely stated that her mother had suffered from "rheumatics." Such a statement, however, is but slight evidence of rheumatism, since "rheumatics" is a term loosely used by women in her position of life. No other member of the child's family had suffered from rheumatism. So far, then, there was no definite family history of rheumatism, and unless we assume that the

chorea and the endocardial murmur are to be regarded as manifestations of this complaint, there is no evidence of past or present rheumatism in the child.

It was stated that she had experienced a severe fright, but further inquiry elicited the fact that this took place some months before the appearance of chorea; it could not, therefore, have been the cause.

The choreic symptoms improved and almost vanished; but about a month after admission she developed pericarditis; the temperature suddenly shot up to 103° , a pericardial friction sound could be heard, and difficulty of breathing came on, soon amounting to orthopnoea.

This case, then, is an instance of a child with chorea, in which the prominent heart lesions of rheumatism were found without any other rheumatic signs. It is important to remember that it is by no means uncommon for children to have acute rheumatism manifested by the presence of little or nothing but the cardiac lesions due to this disease. It is also desirable to note that of the two lesions pericarditis is of infinitely more immediate importance than endocarditis. Later on, the valvular lesions become of moment, owing to the various other organic conditions they produce, but at their onset they are not of such grave import as pericarditis. For pericarditis causes an acute dilatation of the heart, especially of the thin-walled right cavities, by the injurious effect of the inflammation on the muscular structure. This dilatation can easily be demonstrated by the increase in the precordial dulness which it causes at a very early stage of the disease, while as yet the rub can be distinctly heard over a large part of the heart, while the impulse can be well felt, and it is clear that no great amount of fluid is present in the pericardial cavity. And this dilatation is only too apt to be permanent, partly from the effect of adhesions, but yet more from the weakening of the muscular wall, especially of the right ventricle. A case of "cured" pericarditis will often be found to have a considerable increase of precordial dulness, and a rapid pulse, usually about 120 to the minute. A child generally recovers from its first attack of pericarditis, but a second or a third attack increases the damage to

the structure of the heart to such an extent as soon to cause a fatal issue. In children it is pericarditis that kills.

If, therefore, a child presents the slightest evidence of rheumatism of any kind, whether arthritis (even the most subacute), or chorea, or nodules, or erythema, or tonsillitis, the heart must be most carefully and frequently examined, lest pericarditis should escape observation.

To return to this case. As soon as the pericarditis was noticed, she was put upon salicylates, and an icebag was applied to the præcordium, in accordance with the plan of treatment I have elsewhere advocated.* In two days the signs had considerably diminished; the area of cardiac dulness was less, the friction sound much less distinct, and the breathing easier. On the third day, as the temperature had fallen to 96°, I thought it wise to discontinue the icebag. A day or two later the friction sound increased in intensity, and the temperature rose again. The icebag was re-applied for an hour or two at a time. On the fifth day the temperature rose to 102.5°, and the dyspnoea recurring, four leeches were applied. When I saw her the next morning she was in great distress; the cardiac dulness extended two fingers' breadth to the right of the sternum, and a loud rasping double rub could be heard. I had the icebag re-applied, and with a view of preventing collapse kept the rest of the body warm by means of three hot-water bottles applied simultaneously, one to the feet, and one on each side of her. In twenty-four hours the friction sound was much less loud, and the increase of the heart's area to the right of the sternum was considerably diminished. To-day, the fifth day since the re-application of the icebag, the area of dulness is about one finger's breadth to the right of the sternum, and it extends about the same amount to the outer side of the left nipple line, upwards to the upper margin of the third cartilage. The rub is now quite faint, and this is not owing to effusion of fluid, for not only has the area of dulness diminished, but the heart's impulse can be well felt over a considerable area. There is now a short cantering presystolic murmur in addition to the louder systolic murmur which has been present throughout, and which is now conducted into the axilla. The pulse rate, which was 166 before the re-application of the icebag, fell within a few hours

to 132, and is to-day 106 per minute. The child is obviously better. There is no orthopnoea, and but little dyspnoea. She has nearly lost her pain, sleeps well, and plays with her toys and picture-book. The icebag is still on, and to its use I attribute the very marked improvement which has taken place. This treatment is of special value in the early and acute stages of pericarditis. It is true that a patient thus treated needs very careful watching, but provided that the general warmth of the body is kept up as in this case by means of hot-water bottles, there seems to be no risk. The temperature should, however, be frequently taken, and the patient watched for signs of collapse. In the later attacks of pericarditis the application of ice is much less useful, and much more likely to produce collapse.

CASE 2. *General Paralysis of the Insane, with mainly Physical Symptoms.*

This man, 37 years of age, is interesting from a diagnostic point of view. He has been employed in the merchant service, and was lately captain of a large vessel. With the exception of syphilis when about 19, he has always enjoyed good health. He has recently had a great deal of mental anxiety as regards his pecuniary and domestic affairs. In May last the ship he commanded was wrecked. In the gale which caused her loss he had been exposed, and without sleep, for 58 hours, as he dared not leave his post on deck. Since this misfortune he has been unable to obtain employment. He returned to England in the autumn. Some little time afterwards he began to suffer from pains in the head, and noticed that his memory was becoming impaired. Lately he has had some trouble in walking, and has double vision on looking to the right. For this last symptom he went to the Moorfields Ophthalmic Hospital, where he saw my colleague, Mr. Silcock, who diagnosed his condition and kindly sent him on to me yesterday.

As there has been some difficulty in walking, we proceed first to watch his gait. You can see at once that it is unsteady, that there is distinct, though not great, ataxy. This becomes more definite if he walks with his eyes closed, and on sharply turning round he totters. When placed with his feet close together he can stand, even with closed eyes, but the movements of the tendons on the dorsum of his feet betray his insecurity. There is defect of co-ordination of the upper limbs also, for he quite

* See "The Clinical Journal," Vol. I., No. 1; also "British Medical Journal," February 18th, 1893.

fails to make the tips of his forefingers meet, even when he looks at them, and the failure is still more evident when his eyes are closed.

His pupils are unequal. They both contract a little with accommodation, but you can see that the contraction is sluggish, and the pupil soon dilates again. To light there is little or no movement of the pupils. Movements of the eyeball show that there is weakness of both external recti muscles. The optic discs are pale, but otherwise normal.

On being told to show his upper teeth, you note that the muscular movement is tremulous and imperfect at first, and that after one or two attempts this imperfect movement becomes impossible. Similarly, he can whistle for a moment, but the muscular effort of the lips soon fails. The tongue is protruded straight, it is not atrophied, and is hardly at all tremulous.

You have no doubt noticed the indistinctness of his speech as he answered my questions: it became more and more marked as he told his tale. There is weakness of articulatory power, increasing as he talks, the tongue apparently being weaker than the lips, for labials are fairly pronounced, while the tongue-sounds are imperfect.

Now let us examine the condition of his limbs. You see that he feels instantly, and localises correctly the slightest touch on the skin of his lower limbs, and that if I move one of them without allowing him to see what I do, he tells me at once which I have moved, and in which direction. He does not complain of pains, or of any other subjective sensation. You see also that the nutrition of his muscles is good; there is nowhere any atrophy. If you test the power of the flexors and extensors of his knees, you find that they are strong, and can overcome considerable resistance. The muscles are not flabby; on the contrary, they feel too firm, their tone is somewhat too great, and the effect of this is seen when we proceed to test his knee-jerks. On the right side we at once find a marked increase in the jerk, but on the left side there is at first a great difficulty in obtaining it at all. We must not conclude that it is absent, for you will see that the limbs are slightly rigid, and that the patient never thoroughly relaxes his muscles. Even the device of making the patient interlock his fingers and pull forcibly fails to relax his leg muscles while he is in a recumbent position; but now that we have made him sit in a chair, and cross one leg over the other, we succeed in a

favourable moment in demonstrating marked increase of the knee-jerk on both sides. There is a slight tendency to ankle clonus on both sides, and the plantar reflexes are exaggerated.

What diagnosis do we form in this case? At first the ataxia and inco-ordination, and some of the eye symptoms, suggest *tabes dorsalis*. But the exaggeration of the knee-jerks and the absence of all sensory symptoms are against this. The rigidity and increased reflexes suggest lateral sclerosis, but the good muscular power shows that this cannot be far advanced. We have then symptoms of both these conditions, and so far as the spinal cord symptoms are concerned, we might regard the case as one of "ataxic paraplegia," that is to say, one in which both the lateral and the posterior columns are affected. But there is evidently some cerebral mischief also, as evidenced by imperfect articulation, weakness of lower facial muscles, and loss of memory. We have to deal here with a very wide range of symptoms, and in all probability we have not yet learned them all. For we have still to inquire from his friends whether he has not during the past few months shown marked deterioration of mental power, and perhaps also of moral character, which may be quite as important from the diagnostic point of view as are the physical symptoms which we see for ourselves.

Such psychical symptoms as these would throw a clear light on the meaning of his physical condition. If, in addition, delusions of grandeur were present, the diagnosis would be quite obvious, but he appears to be entirely free from them. Such delusions, however, are not a necessary part of the disease known as general paralysis of the insane, and judging from his physical symptoms, from his impairment of memory and his general appearance, there can be little doubt as to the nature of his disease. A cerebral tumour might cause the loss of memory, the pains in the head, and some defect of speech, but it would probably cause optic neuritis, and it could not produce this peculiar combination of spinal symptoms. These in their turn might be produced by insular sclerosis, but then there would be oscillating tremor of the upper limbs during movement, nystagmus, and a quite different affection of speech.

The causation of his disease is clear enough. The mental and physical strain of commanding a vessel in a violent gale, with no sleep and little food for fifty-eight hours, followed by the exposure and anxiety caused by the shipwreck, the disastrous

effect on his own fortunes, together with pecuniary losses entailed by family difficulties, are in themselves sufficient to account for his condition. But in addition to this, there is the history of syphilis. It is now quite certain that syphilis leaves behind it a predisposition to all kinds of degenerative affections of the central nervous system. The patient thinks that his syphilis was quite got rid of by Iodide of Potassium, but he does not know, as we do, that long after an apparent cure, perhaps twenty or thirty years after, syphilis claims its victim. The man who has once had syphilis is never safe.

CASE 3. *Spasmodic Dyspnoea in Mitral Disease.*

This girl has mitral regurgitation, with some stenosis and probably an adherent pericardium, the results of a former attack of rheumatism in which she had endocarditis and pericarditis. The point of special interest in her case is that she has occasional attacks of spasmodic dyspnoea and cardiac pain coming on suddenly and unexpectedly and lasting a variable time, from half an hour to two or three hours.

Such attacks are not very rare in mitral disease, especially in mitral stenosis, and they seem to be analogous to the attacks of angina which are apt to occur when there is disease of the aortic valves. They commence without warning by dyspnoea, which rapidly increases. After ten or fifteen minutes pain is felt over the cardiac region. The dyspnoea and pain continue until the attack subsides. The patient's face becomes pale and his limbs cold; his pulse is feeble and very rapid; his respirations short and very frequent; he often sweats profusely, sometimes vomits, and occasionally has flatulence. These latter accompaniments seem to point to a neurosis of the vagus, while the pallor and coldness point to an imperfect filling of the left ventricle. The dyspnoea I believe to depend upon a failure of the right ventricle, accompanied in many cases if not always by an acute dilatation. In such attacks my house-physicians have often succeeded in demonstrating a marked increase of the cardiac dullness to the right of the sternum, and on two or three occasions I have been fortunate enough to be present when an attack came on and to be able to satisfy myself of the fact. The increase in transverse dullness may amount to as much as two fingers' breadth, and I have found it return to the normal when the attack subsided. I have

also observed a temporary tricuspid systolic murmur, which disappeared when the attack was over. It is not, however, always possible to demonstrate this dilatation, perhaps because it is often masked by distension of the lung. A boy under my care in 1891, who had many attacks of this kind, in several of which the acute dilatation was clearly proved, died in a severe attack in which the house-physician could find no increase of the dullness. At the necropsy the lungs were found extremely insufflated: they did not collapse on opening the chest. The right side of the heart was dilated and distended with blood. The mitral valve barely admitted the tip of my little finger. Whenever the right ventricle is acutely distended, dyspnoea is at once produced. This is seen in its most acute form in embolism of the pulmonary artery, and in the only case of this affection which I have had under treatment, a prompt venesection saved the patient's life. In less acute, but still well marked degree, it may be seen at the onset of pericarditis, which rapidly produces dilatation. This dyspnoea is, I believe, not merely a result of stimulation of the respiratory centre by hyper-venous blood, but a true physiological reflex similar to the action exerted by stimulation of the "depressor" nerve on the vasomotor centre. Just as the result of the latter is to open up the vasomotor channels and so to relieve the left ventricle, and prevent its paralysis from over-distension, so I believe a distension of the right ventricle tends to bring about its own relief by a reflex stimulus of the respiratory centre.

The symptoms pointing to vagus disturbance suggested to me the employment of Atropine, which has such a marked physiological action on this nerve, and I have found it of very great service. It must, however, be given in sufficient quantity. Two minims of the official *Liquor Atropinæ Sulphatis* ($= \frac{1}{80}$ grain) will usually produce little effect, but a hypodermic injection of four minims ($= \frac{1}{4}$ grain) will often at once cut short the attack. It has just now done so in the case of this girl. She was seized with an attack while we were investigating the case of general paralysis, and Mr. Beggs promptly injected four minims of the solution. This was about a quarter of an hour ago, and you see that the patient is now free from distress, lying comfortably on her back, breathing fairly easily, and she states that the pain has nearly disappeared. Nitrite of Amyl and Nitroglycerine give some relief at times, but they are far inferior

to Atropine. In two or three instances where this drug has failed, prompt relief has been given by venesection. Leeches also and dry cupping have occasionally been useful. Hypodermic Strychnine and Morphine are also of service.

CASE 4. *Cardiac Dilatation. Dropsy. Action of Digitalis.*

This patient, a middle-aged woman, came into the hospital six months ago with oedema of both legs, and ascites. The area of cardiac dulness extended almost to the mid-axillary line. There was mitral and tricuspid incompetence, which passed off, so we may assume that it did not depend upon valvular disease. Under Digitalis in large doses she improved very rapidly, and she was soon able to go out and follow her ordinary occupation. She returned here a month ago, with oedema of both legs, very marked ascites, and great increase of the cardiac dulness, especially to the left. The abdomen measured 48 inches in circumference, the face was cyanosed, and it was necessary to give immediate relief. One and a half pints of fluid were therefore drawn off from the abdomen by means of Southey's tubes. Ten minims of the Tincture of Digitalis were given every four hours, and a remarkable diuresis ensued, the amount of urine on four successive days being 74, 144, 184, and 146 ounces. The Digitalis was stopped, and next day the amount of urine sank to 52 ounces, and on the day following to 44 ounces. As the ascites diminished, the liver was found to be enlarged, firm, and tender to the touch. It was also discovered that there was fluid in the left pleural cavity; 16 ounces were withdrawn by aspiration, giving further relief to the breathing. The area of cardiac dulness extends nearly to the anterior axillary line, but the impulse is distinct and there is no murmur at apex or base. What is the cause of the cardiac dilatation in this case?

We know that this condition, apart from valvular lesions, may be due to pericarditis, to disease of the cardiac walls permitting of their giving way before a normal tension, or to normal cardiac walls giving way before excessive tension, especially after sudden exertion.

There is nothing in this case which would make us attribute the dilatation to the effects of pericarditis. At first sight there appears to be no increase of arterial tension, for the pulse is easily compressible. But when we listen to the aortic second sound we find that it is distinctly a little

too loud, and that to the left of the cardiac apex the second sound is undoubtedly louder than normal. These facts seem to indicate increase of arterial tension, in spite of the compressibility of the pulse. And we must remember that there are two factors concerned in arterial tension, the resistance in the arterioles and capillaries in front, and the force of the left ventricle behind. When prolonged high tension has damaged the heart to a certain degree, this organ can no longer do its share in keeping up the pressure in the arteries, and there is, consequently, a fall in tension recognisable in the pulse. Thus a low tension pulse may mean failing heart. We come, therefore, to the question of the cause of the increase of tension in this case. The urine is of low specific gravity, contains no urates, a trace of albumen, but no casts. This strongly suggests the presence of granular kidneys, the common cause of increased arterial tension. Were the albuminuria due to the heart condition we should expect the urine to be of high specific gravity and to contain abundance of urates.

It is probably, therefore, primarily a case of granular kidney in which the left ventricle has yielded to the pressure; and it is quite likely that the ventricle wall itself has undergone a fibroid degeneration.

The enlargement of the liver is probably due to passive congestion owing to back pressure, on which a secondary cirrhosis, an increase of fibroid tissue, has supervened, and there may be some perihepatitis. Of course there may have been a primary cirrhosis, but we have no reason to suspect the patient of alcoholic habits.

The pleural effusion is doubtless simply a dropsy. It is remarkable that hydrothorax, which one would think ought to be a symmetrical condition, alike on the two sides of the body, is frequently unilateral, as it is in this case. The cause of this is not evident.

From the point of view of treatment this case is interesting. It shows the marked relief obtained by drawing off fluid from the abdomen, and again from the pleura. It illustrates also very remarkably the beneficial action of Digitalis in suitable cases. The very copious diuresis which resulted from it and which ceased when it was discontinued, is proof of this. Such diuresis is brought about by an increase in the arterial tension which Digitalis effects. This increase is partly due to the action of the drug on the vasomotor centre, partly to its

effect on the cardiac muscular fibre. It is impossible to explain its action entirely by its influence on cardiac muscle, for physiologists find that in warm-blooded animals it does not raise arterial tension when the spinal cord is severed in the neck, and does not slow the action of the heart after section of the vagi. Hence, in warm-blooded animals it must act mainly through the nervous system, and clinically it is found often to be useless for hearts that are merely weak, and helpful to many hearts that are considerably hypertrophied if dilatation be also present. Nor is it mere rapidity of action that Digitalis influences, for in neurotic tachycardia it is useless. But the rapid, irregular heart, with dilated left ventricle and low arterial tension, is always benefited by it.

CLINICAL NOTES.

(Specially reported for The Clinical Journal. Revised by the Author.)

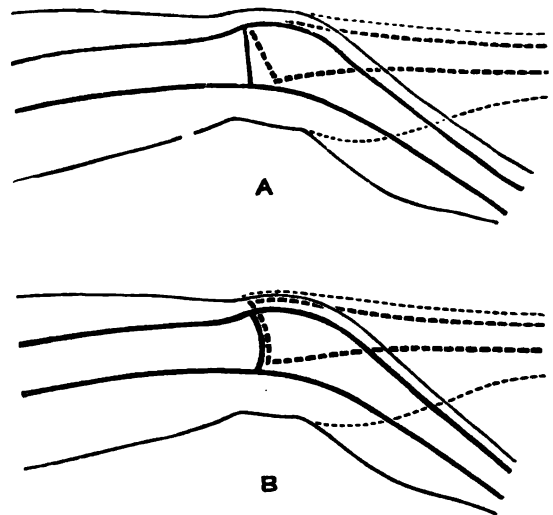
WITH MR. HOWSE IN THE WARDS OF GUY'S HOSPITAL.

Case of Osteotomy after Excision of the Knee.

This case is of interest, as it is the first case in which I have had to divide the femur twice after excision of the knee-joint so as to make it straight. He is 18 years of age. I excised the right knee-joint when he was 3 years of age. The limb was not put up with the knee flexed, as I do not approve of such method. When 13 years of age, that is to say at the age of rapid growth, the bone became bent at the site of the former knee-joint, with the convexity forward. To straighten it I divided the bone just above the bend. The operation was successful, and the bone kept straight until about eighteen to twenty-four months ago, when it gradually became bent again. A second operation was performed a month ago, and the bone got nearly straight. He has since been kept on a back splint. You can see there is a slight degree of genu varum, which we shall probably be able to correct with an inside splint. It is necessary for such a patient to wear a leather splint for quite a year after he is up and about again.

In these cases I do not divide the femur by a

straight cut through the bone, as, if thus divided, the ends of the bone are only in apposition, when the limb is straightened, at a small portion of the anterior edge, leaving a large triangular gap at the posterior part, to be filled up by granulation tissue, which takes some time undergoing ossification. I make the line of bone division somewhat rounded; then, when the limb is straightened, the lower segment of the bone glides forward on the upper segment, leaving a considerable surface in apposition. The lower segment overlaps in front, the upper segment overlaps behind, to a certain extent. The ends exposed by this overlapping become covered with granulation tissue which becomes ossified.



In the diagram fig. A represents what takes place when the bone is divided by a straight cut; fig. B, when the bone is divided by a curved incision. By thus keeping nearly the whole surface of the divided bone in contact, union takes place more rapidly and more firmly than if a gap is left between the bones. Another plan which is sometimes adopted to attain the same result, is by making an oblique division of the bone with the chisel, and thus letting the lower fragment ride upwards on the upper, as occurs frequently in oblique fracture. In my opinion this is a more difficult operation than the curved cut which I advocate, and the results are not so satisfactory, involving much more injury to the bone and a larger production of callus.

It will be seen that this excision was done at a very early age (3 years). It is in these cases that we have to fear bending of the excised joint. When the excision is done in the young adult, bending rarely, if ever, takes place. Hence probably, though our experience is not yet long enough to have many cases in point, when a bent excised knee is put straight in the manner above described after the attainment of adult age, we have to fear comparatively seldom a repetition of the process.

The curving nearly always takes place *at the site of the excision*, and is due to the stretching of the rather weak cancellous bone produced by the operation between the femur and the tibia. Hence in process of time a triangular block of new bone is produced between the femur and tibia, which has many times been taken away by operation to straighten the limb (excision "en bloc"). This operation is altogether of most unnecessary severity, and is not to be compared with the operation above described, for many reasons, which I cannot enter into now.

The bending nearly always takes place *at periods of rapid growth of the individual*. Thus in the case cited, the first bending occurred at the age of puberty, the second just before the epiphysis joins on to the diaphysis. Both these are periods when much new bone is being formed, and this is apt to be of a kind which ill resists the strain of the long lever formed by an excision of the knee. Consequently it is well to protect the excised limb at such periods by greater care, and by the use of a leathern splint.

A Case of Persistent Hæmaturia.

This middle-aged man has suffered from Hæmaturia, occurring at intervals, for the last seven years. I cannot by means of the sound find any signs of calculus or villous growth, but the bladder feels thick and hypertrophied. The most successful treatment has been the internal administration of Bin-iodide of Mercury, and the washing out the bladder daily for a time. The improvement has been manifested by the increasing length of the intervals between the attacks of hæmaturia. I am inclined to regard it as a result of sarcomatous infiltration. It is by no means uncommon to find that Bin-iodide of Mercury controls the rate of growth of such sarcomata by diminishing their vascularity.

On Choice of Operation for Varicocele.

In this young man I operated by an open incision, the veins being secured in two places, the intervening portion was excised. Some surgeons teach that such an operation is fraught with danger, but I do not concur in this opinion. If performed with proper antiseptic precautions I am of opinion that it is less risky than operations by the subcutaneous method. Further, by this method, you have the advantage of seeing what you are doing to a certain extent; you can be sure that you have separated the veins from the vas deferens, and the small-sized cat-gut ligature is quickly absorbed. He was operated on ten days ago, and has had no bad symptom. It is well to explain to these patients that the swelling of the parts consequent on the operation will not subside under two months or so, as they are apt to feel anxious about the continuance of it. This swelling is due to thrombosis in the veins remaining in the part. During the operation it is not possible to cut away *all* the veins forming the varicocele. Such an operation would be most unnecessarily severe. In the operation described above the circulation is arrested in the majority of the veins forming the varix; the stumps of the severed veins fill up with thrombus, which gradually becomes adherent to the vessel wall, then permeated with vessels, and finally absorbed. The process of absorption of the thrombus takes from two to three months. Hence the necessity of the caution given above. The operation wound itself is generally completely healed in about a week. The *efficiency* of the operation may be generally tested at this time by feeling the bulk of the hard coagulum in the remaining veins. The only risk of the operation is one common to all vein operations, viz.: that it is important to keep patients absolutely quiet for at least a week for fear of the possible detachment of a portion of the clot before it has become quite adherent to the vessel wall, and thus involve the patient in the risk of pulmonary embolism.

A Case of Dupuytren's Contraction affecting both Hands.

This patient illustrates well one of the causes of the contraction of the palmar fascia known as Dupuytren's Contraction. The fingers affected are not the same in both hands. In the right hand the ring and little fingers were affected; in

the left hand the middle and ring fingers. This is brought about in the following manner:—

He is by occupation a leather worker, and his work consists in drawing with a special instrument the straight lines you see on covers of books, on purses, and on pocket-books. To do this work he holds the tool in his right hand, the fingers being kept in the position similar to that found when he came here, viz., his little and ring fingers being used tightly to grasp the tool. With his other hand he uses a parallel ruler; in this hand the little finger is left free, and consequently we find it here unaffected with the contraction. The case illustrates the influence of the employment on the production of the contraction. I operated on the right hand fourteen days ago, and on the left hand ten days ago. As you see, there is practically no deformity now, and he will eventually leave the hospital with a useful hand. In this case I divided the mass in two places in one hand, and three places in the other hand.

You can feel some small lumps beneath the skin, they spring from the palmar fascia and are connected with the skin. If the contraction is left unoperated upon, they become adherent to the superficial tendon, and it then becomes necessary to divide this tendon. In this position the tendon of the flexor sublimis digitorum is superficial to the tendon of the flexor profundus digitorum. Hence, though this is very rarely required, it may be necessary to divide this superficial tendon in the very old chronic cases. In such cases the deep flexor tendon, being attached to the terminal phalanx, still gives power of flexion *to the whole finger*, though probably *power* is somewhat lost; still, the control of the finger is quite sufficient to enable people to follow their usual occupations. Such patients, however (after any form of Dupuytren's contraction), should always wear a leathern case at night, during sleep, to keep the fingers quite straight during at least eight hours of the twenty-four; otherwise there is a considerable risk of a relapse.

To prevent Inversion of the Foot after Excision of the Knee.

After excision of the knee, if the foot rests straight on the foot-piece of the splint, it is very apt to unite in an inverted position owing to muscular action rolling the femur outwards. To obviate this we are using for this case a splint

in which the foot-piece can be made to rotate slightly so that the tibia may be *rotated outward*.

A Case of enlarged Bursa on the inner side of the Knee-joint.

This patient came here with a large bursa on the inner side of the right knee-joint. It felt so hard that I concluded there was an exostosis beneath it. On cutting down I found two bursal sacs, both very tightly distended, one below the other, and communicating with one another. They were connected with the tendon of the gracilis. The second underlying bursal sac probably gave rise to the sensation of extreme hardness resembling an exostosis. When the parts were relaxed under chloroform the hardness mainly disappeared, and the whole tumour felt more like a bursa—as it ultimately proved itself to be.

A Case of Fistula Ani.

This man has been sent up to be operated on at once for fistula. You can see the opening readily, but it is better to recognize the surrounding induration of the fistula by the touch than to trust to seeing the opening of the fistula, because sometimes the aperture of a fistula is excessively small and apt to be concealed between the folds of skin. You can see around the anus a number of hypertrophied folds, these folds contain thrombosed veins. The breaking down of a thrombosed pile is by no means an uncommon cause of fistula, and when fistula is found associated with piles, the latter must be operated on. As this case is associated with piles, I shall not operate now, but shall wait until he is prepared for the operation. It is my custom to prepare a case of piles or even fistula for operation by first of all thoroughly emptying the gut, and then giving, about eight hours before the operation, some intestinal astringent and sedative, such as the Pulvis Cretæ with Opio, to keep the bowels at rest after the operation, and to prevent awkward contretemps *during* the operation.

An Antiseptic Dusting Powder. (*The Can. Practitioner*):

| | | | |
|------------------------|-----|-----|------|
| Salol. (Pulv.) | ... | ... | 3j |
| Zinci Sulphat. (Pulv.) | ... | ... | 3iss |
| Benzoin (Pulv.) | ... | ... | 3ss |
| Talc. (Pulv.) | ... | ... | 3ij |
| Ol. Anesi | ... | ... | ℥xx |
| M. Ft. pulv. | | | |

CLINICAL REMARKS

ON

SOME CASES IN THE WARDS OF
UNIVERSITY COLLEGE HOSPITAL.

By JOHN WILLIAMS, M.D., F.R.O.P.,

Obstetric Physician to the Hospital.

Case 1. This patient was admitted three days ago, complaining of pain in the lower abdomen. This pain commenced on the afternoon of December 28th, 1892, and has been gradually getting worse. She is married, and has one child. She was quite regular until May, 1892, the periods lasting about five days as a rule, and the amount lost being normal. From May they stopped until August 6th, when they recommenced, being preceded for three days by a discharge, which she states to have been like clear water. Between that time and December she had several attacks of flooding, lasting about two days, but loss of blood was very great. During all this time she suffered from morning sickness. This did not suggest pregnancy to her, as she had often suffered like this before. On the occasion of the commencement of the pain on December 28th, she noticed that her abdomen was enlarged. She has seen nothing since Christmas.

She is then evidently wasted—she tells us that she has lost 25 lb since the end of December—the flesh of her limbs is very soft; the tongue is clean and shiny; mucous membranes are markedly pale.

The abdomen is prominent, being more so and altogether larger on the left, than on the right side. The most prominent spot is $1\frac{1}{2}$ inches below the umbilicus, and 1 inch to the left of the median line. The umbilicus is depressed; there is about $\frac{3}{4}$ inch of fat in the abdominal walls.

Liver dulness reaches to lower border of sixth rib; it measures about 3 fingers breadth; the edge cannot be felt.

The abdomen is tense.

A hard smooth round mass is felt occupying the abdomen from the pubes to the umbilicus. Its borders are not distinctly definable, only moderately so. On the right side it reaches to $1\frac{1}{2}$ inches from the ant. sup. iliac spine and runs from that point to the umbilicus; on the left side it extends from the umbilicus to $\frac{1}{2}$ inch from the ant. sup. iliac spine. On the left side it feels cystic, and, I think, fluctuates, in fact, it feels like a moderately

tense cyst. On the right side it feels hard and solid to the extent of about one quarter of its surface.

The tumour is not tender to the touch.

Before making a vaginal examination, I shall pass a catheter and empty the bladder. It is always advisable to do this when examining, in the case of an obscure abdominal tumour. The catheter went in a long distance, and 24 $\frac{3}{4}$ of urine have been drawn off. The withdrawal of so much urine will, in all probability, make a vast difference in the physical signs of the abdomen.

On examining per vaginam I find that the posterior wall of the vagina, which almost bulges through the vulva, can be felt pushed forward so as to press against the urethra under the pubic arch. It is bulged forward to such an extent that my finger can only just pass between it and the pubes. This bulging appears to be produced by fluid, which is encysted, as I cannot push it away from beneath my finger. It does not feel solid. On passing my finger further up, the cervix can be felt almost on a level with the top of the pubes. It is squeezed into an irregular flat cake about 2 inches from side to side, and about the thickness of my finger. No os can be felt; but the edge presents a jagged rough surface, which is either an ulcerated cervix or a new growth, presenting, to my mind, the characteristic features of carcinoma. Another point in favour of this diagnosis is that it bleeds so readily when touched.

On examining the rectum I feel that it is pushed to the left and forwards by a growth occupying the posterior portion of the right side of the pelvis partly behind the rectum. What was thought to be fluid in Douglas's pouch, is not so, as, with one finger in the rectum and the other in the vagina, I feel this is empty. It is evidently a growth situated in the right and posterior part of the pelvis, and reaches from the ilio-pectineal eminence on the right, to the sacro-iliac synchondrosis on the left side. It feels soft, as if it contained jelly; it is round, smooth, absolutely fixed, and seems to burrow behind the rectum.

As I thought, the shape of the abdomen has been considerably changed by the withdrawal of so much urine. Though still greatly distended, it is less so now on the left than before, and the two sides seem to be about equal. The cystic nature of the swelling has disappeared, and a hard solid mass can be felt on the left side reaching to the level of the ant. sup. iliac spine. The mass

on the right side is the same as before; the upper part of the mass on the right side feels like the uterus, and is probably the fundus as it is directed obliquely to just behind the pubes where the cervix lies.

My first thought when I examined per vaginam, was that it was a case of serous perimetritis, that is to say, an effusion of serum into the pouch of Douglas, encysted owing to adhesions between the intestines; my reason for so thinking, was the very considerable bulging of the posterior vaginal wall. On examination by rectum, I found that there was no fluid in this situation. As the growth is pushing behind the rectum, I assume that it is in the cellular tissue behind the peritoneum, for were it in the peritoneal cavity, it would have grown down into the pouch of Douglas; I assume, therefore, it is a growth commencing in the cellular tissue on the right side. In addition to this, there is probably carcinoma of the cervix as well.

Case 2. This woman, who has been married thirteen years without having any children, comes with the tale that her "womb falls down." If such is the case it is unusual with such a history. She attributes it to the fact that she stands up a great deal, as she works in a laundry.

On examination I find an extremely fleshy hymen which is worth noting, as it has the typical character of the hymen found in sterile married women. There are one or two slits in it, and it permits the passage of my finger easily, otherwise it completely closes the vagina. The vaginal orifice is fairly lax, and the cervix is normal in shape, size, and position. In front of the cervix I feel a small hard nodule. This might be the fundus of an anteverted somewhat undeveloped uterus, or it may be a small fibroid in the wall of the uterus. I cannot feel any prominence of the uterus above it. The sound passes to the extent of two inches in the normal direction, and it does not lift up this small body. It is evidently then not a case of anteversion, but is probably a small fibroid in the walls of the uterus.

This is one of the cases in which the introduction of the sound helps us to make the diagnosis.

With reference to the prolapse she is in error, as no prolapse could take place with such a condition of vagina.

Case 3. This woman, 28 years of age, comes with a history of the "womb coming down outside the vulva." She has had five children, the youngest

being 13 months old. The trouble has been ever since her first confinement.

On examination, the first point to note is that the perineum has been torn right through into the rectum. You can see a cicatrix in the anus, and also that there is a division of the sphincter. The laceration took place at her first confinement. The perineum is not very thick, being only about three times the thickness of ordinary brown paper. On passing my finger into the vagina I find a cavity large enough to admit my fist; the cervix is torn and the uterus anteverted so that the fundus rests against the bladder. All these conditions favour procidentia and prolapse. She tells us that she can retain the fæces when formed, but when loose she is unable to do so. The case, therefore, well illustrates the importance of getting the ends of the sphincter to unite after the laceration.

I should not have thought that the womb came right out, as on straining, the cervix only touches the floor of the vagina.

She is wearing a large-sized ring pessary, which is only necessary when the womb does come right out. I shall take out the ring when she comes into the hospital and watch the case; if the womb does come down I shall repair the perineum and sphincter ani.

Case 4. This old woman was admitted suffering from procidentia of the uterus, with ulceration of the posterior wall of the vagina. She was put to bed so as to allow the ulcer to heal before any operative procedures were undertaken.

The ulcer has almost healed, and the cicatrization caused by its healing has done for the posterior wall what I proposed to do by operation, and the uterus and posterior wall of the vagina no longer prolapse, even when she stands and strains. She, however, has a cystocele still, and I intend to cure that by operating on the anterior wall of the vagina.

Case 5. This is a very obstinate case of dysmenorrhœa, occurring in a neurotic girl. She has been in here twice before. On the first occasion she was merely watched; on the second occasion, some four months ago, I dilated the cervix up to No. 16 English bougie. She has menstruated three times since, and complains that the pain was as bad as ever. Last week she came in and I dilated up to No. 18. The dysmenorrhœa is evidently not due to obstruction, as a No. 12 was admitted readily, whereas a No. 9 is the usual limit as to a readily

admitted size. No. 18 was tightly grasped, and remained *in situ* quite one hour before becoming loosely held there.

In this case the pain is due to spasm. Dilatation of the cervix undoubtedly does obviate the spasm in many cases. In other cases, no matter to what extent dilatation is carried out, no relief is obtained. Even the physiological dilatation undergone during parturition fails to relieve some cases.

CLINICAL NOTES.

(Specially reported for The Clinical Journal. Revised in each case by the Author.)

WITH SIR DYCE DUCKWORTH IN THE WARDS OF ST. BARTHOLOMEW'S HOSPITAL, FEBRUARY 14, 1893.

A Case of Pneumonia.

This is a classical case of Acute Croupous Pneumonia occurring in a previously healthy boy of 15. The illness dates from February 6th, but as yet there has been no definite crisis, and the temperature was, when last taken at 11 a.m., 101°. It has been as high as 104.2, but since 3 a.m. on the 12th it has come down in a staircase fashion to 101°. When the crisis is delayed, as in this case, past the sixth day, there must be some complication, and in my experience there is no more common cause than pleurisy. Extension of pneumonia in the affected, or in the other, lung is perhaps the next most frequent cause of delayed crisis—so-called *pneumonia migrans*. The possibility of empyema must also be considered. There are certain points of interest about this case; thus, he had no initial rigor; he has had considerable diarrhoea, which is diminishing now in frequency and quantity, and there has been no herpes on the lips. Herpes is often absent in pneumonia, the result of septic causes, and even in cases dependent on other causes. As a matter of clinical experience I prefer to see herpes present from a prognostic point of view. I regard the diarrhoea as probably of use as an eliminant. Nothing has been done to check it in this case. I do not regard it as wise to do so except when excessive or exhausting. In cases where there is diarrhoea I give mutton-essence instead of essence, or other

preparation, of beef, as I find that beef-essence is somewhat relaxing, whereas mutton-essence has no aperient effect.

The usual drug-treatment in these wards for patients with pneumonia is Quinine, 2 grs. every four hours. This boy is taking—

Ammon. Carb ... gr.v

Decoct. Cinchonæ ... ʒj

M. Sextis horis.

A Case of Anasarca.

This man, æt. 60, is suffering from chronic nephritis of the mixed form, cardiac dilatation and anasarca. He is an old patient here and so we know all about him and his troubles, but such a case, when seen for the first time, presents difficulties. You want to put your finger on the first link of the chain, and it is by no means easy to do so. Which was the original trouble, the renal or cardiac? A careful inquiry into the history, together with the condition of the urine, should enable us to settle that point. In these chronic cases what are we to do? It is impossible to do much more than afford relief, and so we ask what symptom is the most irksome. He complains of his breathing being short. This one can understand. He is, so to speak, water-logged. The abdomen is greatly distended, the left pleura contains a quantity of fluid, and his legs are very oedematous. He has been taking Acid Tartrate of Potassium, but to give him some relief we will put a Southey's tube into the leg, and so mechanically get rid of some of the fluid. It is a simple procedure, but certain rules should always be carried out. The leg should be thoroughly cleaned, and the skin well-covered with boracic acid ointment. It is best to insert the tube about the middle of the outer surface of the leg, this part being freer from lymphatics than the inner side. We usually keep in the canula for eight to twelve hours, allowing the fluid to drain off by a long soft rubber tube, into a basin of carbolic lotion placed under the bed. The integument of the limb is waterproof, owing to the boracic ointment spread over it, and no soaking of skin occurs. The canula must be perfectly aseptic. By this means many pints of fluid may be slowly and safely removed, affording, at times, great relief, and without any of the miserable accidents one used to see in former days from erythema, cellulitis,

and sloughing. "Listerism" has come to the physician's aid here, as in many other ways. We relieve ascites in a similar fashion, and never have any troubles afterwards.

Diphtheria or Follicular Tonsillitis.

This man, æt. 29, was admitted here on February 9th, suffering from chronic parenchymatous nephritis; the urine contained about one-tenth albumen. The point to which I want to call your attention, is a condition which has developed since he came into the hospital. On the night of the 11th, he complained of shivering, pain in the feet, legs and loins. The temperature commenced to rise, and by the night of 12th had risen some 6°. He was given 6 grs. of Phenacetin on that night, and the temperature fell about 4°. The pains first complained of passed away on the 13th; he complained of headache on the 12th, and on the 13th of soreness of the throat with dysphagia. The throat was examined, but nothing was noted, with the exception that there was some redness of the fauces. This morning (February 14th), some white patches were seen on the right tonsil, and the urine, which is of smoky colour, due to the presence of blood, contains one half albumen.

On examining him I fail to find, externally, anything more than a slight enlargement of the lymphatics just above the cornua of the hyoid bone. On examining the throat internally you can see on the right tonsil confluent white specks. The other tonsil is redder than usual; the velum is clear and of a natural colour; the redness, which is rather bright than dusky, begins at the root of the uvula.

Are these white specks due to the superposed membrane of diphtheria, or to the sloughing of follicular tonsillitis?

This question involves a very nice point, one which is not unattended by anxiety even here where we have the advantage of skilful and careful watching, but one which in private practice would be a source of the greatest anxiety to you. Excavation with sloughing is significant of ulcerating follicular tonsillitis. Superimposed lymph, with dusky redness around, is clearly true diphtheria. Some cases are readily diagnosed, but oftentimes it is quite impossible to feel certain. You will find that those who have had most experience of sore throats will often be the first to express a doubt as to the exact nature of the case in question. If this be so, you will do well to be cautious and

reserve your opinion, and also to act on the safe side as to treatment and isolation.

My impression is that this is a case of follicular tonsillitis. Understand that I do not pronounce it definitely to be so, and when we come to treatment I shall take precisely the same precautions as though it were a case of diphtheria, and I would advise you always to do the same, reserving your definite opinion until the symptoms and signs are more pronounced.

The sudden onset, with the rapid and excessive rise of temperature, are what lead me to believe it to be a case of follicular tonsillitis, this being quite a common way in which it is ushered in. I have even known delirium to be present. The great disproportion between the temperature and the other symptoms points the same way. The great increase in the amount of albumin helps us but little. Albuminuria occurs in both diphtheria and follicular tonsillitis, so that the increase might be due to either condition. In this particular case the very high temperature might account for it. The enlargement of the lymphatics occurs also in both conditions. We are not justified therefore in *definitely pronouncing* it to be follicular tonsillitis, and though we may believe it to be so, we shall take the same precautions as though it were diphtheria.*

I shall have him watched and isolated, and shall give him the following mixture:—

| | | |
|---------------------|-----|-------|
| R. Potass. Chlorat. | ... | gr. x |
| Ammon. Carbonat. | ... | gr. v |
| Tr. Cinchonæ. | ... | ʒj |
| Aq. Menth. Pip. | ... | ad ʒj |
| M. Quartis horis. | | |

A Case of Pleuritis with Simple Effusion (right side).

This man, 27 years of age, was admitted here a fortnight ago, suffering from pleurisy on the right side. There was nothing to account for it. In such a case it is advisable always to suspect, and watch for, signs of tuberculosis. It is a clinical fact of great importance that in some cases a simple right-sided pleurisy may be the earliest symptom of the presence of tubercle. This man is anæmic, pallid, and wasted. Anæmia associated with wasting may also be viewed with suspicion, for in ordinary anæmia there is no wasting as a

* This case proved to be one of follicular tonsillitis, and rapidly improved.

rule ; on the contrary, the subject of it may become fatter. No bacilli have been found in the sputa. Is this an important fact? Not in my opinion, as in many cases of tubercular affections no bacilli are to be found. When bacilli are found, they are absolutely diagnostic, but the converse is not true. Such a man should, when possible, be sent out of England to a country where he can live constantly in the fresh air.

**WITH DR. STEPHEN MACKENZIE
IN THE SKIN DEPARTMENT AT THE
LONDON HOSPITAL.**

**A Case of Keratosis Pilaris passing into
Lichen Pilaris, and diffuse Inflammation,
accompanied by much Itching.**

This man, who is about 50 years of age, is of interest on account of the duration of the skin condition, and the amount of itching accompanying it. He is a gasfitter by occupation. The condition began twenty-five years ago, and, with the exception of short periods, has persisted ever since. Keratosis Pilaris is not a serious trouble in itself, but it is apt to pass into Lichen Pilaris and Folliculitis by inflammation being excited in the hair follicles. He has had every known local treatment for the itching; he has gained relief chiefly from alkaline baths, but it has been only of a temporary nature. I gave him internally the extract of Indian hemp ($\frac{1}{2}$ gr. twice a day) with very good results as regards the relief of the pruritus. I have found this drug of great use in many cases where itching has been a prominent symptom.

Two Cases of Scleroderma.

I have an opportunity of showing you this morning two cases of that rare disease, Scleroderma. There are two varieties of scleroderma; in one form it is diffuse and symmetrical, in the other it is local and circumscribed. The two varieties differ rather in their clinical aspect. To the first the name scleroderma is always given, but the second variety is often called morphea. If we were naming them after their characteristics, the first variety would be called Diffuse Symmetrical Scleroderma, the second Circumscribed Scleroderma.

Both cases I have to show you are examples of the first variety.

This disease begins in various ways; it may follow chills, and it is preceded occasionally by rheumatic attacks; or there may be no symptoms before the characteristic symptom of stiffness of the skin. Stiffness of the skin is often what first attracts attention, the stiffness increasing until the skin becomes quite fixed. The skin becomes smooth and glossy in many cases; but in others the change is better felt than seen; it cannot be pinched up, and the patient is, so to speak, hidebound. In the symmetrical form the face is often affected, but it is so in only one of our cases. It gives a characteristic fixed expression to the features. Occasionally the hands and feet are most markedly attacked; when it is confined to the hands and feet it is sometimes called sclerodactyla.

Case 1. Boy, æt. 14, placed under my care by Dr. Ralfe. No history of skin trouble in family. He had typhoid fever eighteen months ago. This condition of skin began six months later, first over back of hands and wrists. The skin became tight and shiny, and he was unable to close his hands. Next the feet and ankles became affected, then the knees and legs, later the arms, and lastly the trunk. The whole skin became tense, hard, indurated, unable to be picked up. It became shiny in appearance, dry, inelastic, presenting in places slight superficial scaliness, and over the bony prominences, such as the knees and elbows, where it was stretched so tight, it became red, inflamed, and finally ulcerated. The skin of the face became affected, so that the patient could not freely open his mouth nor smile easily. The movements of the joints became limited and stiffened. All his organs are healthy. No disturbance of sensibility of skin.

Case 2. A girl, æt. 9, sent to me by Mr. Kyffin; she is backward in mental development, and cannot read or write. There is no family history of skin trouble; she has had no previous illness. When $3\frac{1}{2}$ years of age, it was noticed that she always cried when washed and dressed. Six months later the mother noticed that the hands got drawn up and her fingers straightened. The right side was affected before the left. Two years ago the skin over elbows, and one year ago the skin over knees became affected. From the commencement the skin was "scurfy." The condition is now much the same as the other case, except that it is not so general, the face and trunk being unaffected, except for a small patch on the

abdomen as large as a halfpenny. The condition is curiously limited at the upper parts of the limbs, especially as regards the thighs, where there is a distinct rather vascular margin two or three inches below the groins. The condition, however, where present is advancing. In the arms the tendons are bound down and immovable. The hands are deformed, the metacarpo-phalangeal joints being flexed, and the phalangeal joints extended. The hands, as a whole, are drawn to the ulnar side. This gives a claw-like appearance to the hands, but the skin of the fingers is scarcely at all infiltrated, and there are some atrophic white patches on the wrists and hands. The skin over the bony prominences is red and inflamed, and was in a condition of ulceration when she first came under care. It is quite thin and firmly attached to the bone, so that it cannot be pinched up at all, and in places, especially over the knees, networks of dilated capillaries may be seen. Recently the skin over the right thigh has become inflamed, and appears to be now in a state of suppurating dermatitis, this condition being limited, in the same way as the pre-existing induration by the margin below the groin. The eczema was probably started by the retention of pus under a scab. The palms and soles are unaffected—all the organs are healthy.

These two cases are interesting as they well illustrate the characteristic features of the disease, especially the "unpinchable skin" accompanying this disease. The boy is further of interest as he is suffering from Reynaud's disease, and, as you can see, his fingers are blue. This condition was first noticed some three months after the skin became stiff. You can observe for yourself the condition of face I have described, and also the stiffness of the joints due to the hidebound condition.

As to prognosis some cases lead to atrophy and permanent deformity, some undergo a spontaneous recovery after lasting even years, some get well after treatment. The indication is to promote nutrition and flexibility of the skin by baths, massage, and the administration of Jaborandi or Pilocarpine; but I place most faith in the local treatment. Both cases are having massage with hot baths and boracic fomentations. The dermatitis of the girl is being treated by boracic ointment.

Eczema of the Face in a Woman.

Notice the appearance of this woman's face. It

is somewhat copper-coloured, and covered with fine scales; the edge of the discoloration is not defined, and there is no history of febrile or other disturbance of the general health. It is a case of Eczema of the Face. It is not uncommon to find such cases diagnosed as erysipelas. Had it been so, there would have been a high temperature, say 103° or 104° ; the patient would have felt and appeared very ill, the outline would have been defined, and bullæ might have formed. One does however meet with cases where diagnosis is difficult. This eczema is very prone to recur; it is attended with great hyperæmia producing discoloration. At first this disappears completely on pressure, but after repeated attacks it does not.

The discoloration is due to escaped corpuscles, and not merely to congested blood vessels. This causes a copper-coloured stain or bronzing. It is worth remembering that women subject to excessive flushing of the face are especially liable to this trouble.

The treatment consists of two stages:

(1) Reduce the hyperæmia by means of a cooling lotion. I use

R. Glycerini Plumbi Subacetatis.

Glycerini āā 3j

Aquam ad Oj

M. Ft. lotio.

This is used with a mask, and the hyperæmia usually diminishes in a few days.

(2) After that a soothing ointment, or even simple vaseline or benzoated lard may be used.

Though I use Arsenic very little in eczema, I give it as a prophylactic in cases prone to relapse in small doses over a prolonged period. In the case of women with a history of flushing I give Ichthyol, as this drug has, undoubtedly, an influence on such a condition. I begin with 5 grains every morning, increasing it if necessary to $7\frac{1}{2}$ or 10 grains.

A Case of General Eczema.

This patient, as you can see, is very generally affected by Eczema. Like many of our out-patients he will not come into the hospital and lay up. I find the most useful treatment for such a case is to give him Liquor Plumbi Subacetatis, 3ss, with Liquor Carbonis Detergens, 3iiss, instructing the patient to mix one teaspoonful of this with a pint of tepid water, and then sponge the whole of the body with this lotion night and morning, or oftener.

ORIGINAL ARTICLE.

ON THE EXAMINATION OF SPUTUM FOR TUBERCLE BACILLI.

By F. J. WETHERED, M.D., M.R.O.P.,
Medical Registrar and Demonstrator of Practical Medicine
at Middlesex Hospital.

OVER ten years have now elapsed since the discovery of the pathogenic organism of Tubercle by Robert Koch, and it has now become a generally accepted fact that without the Tubercle Bacillus, tuberculosis cannot exist. It follows naturally from this, that the presence of this bacillus is a sure test of tuberculosis in doubtful cases.

This fact has been extensively made use of in the diagnosis of chest diseases, and the examination of sputum for tubercle bacilli has become a routine custom in hospitals. There is no reason why it should not equally be introduced into general medical work, and the advantages of such a course would be very great.

The mode of examining for the organisms presents no difficulties beyond a little practice and patience, and the whole process of staining does not occupy more than ten minutes. The object of this paper is to endeavour to explain what considerable experience has shown to be the most simple process compatible with accuracy.

A microscope is required with a $\frac{1}{8}$ th inch lens and a sub-stage condenser. With the power named the bacilli can be easily recognised, although they of course appear larger and more distinct with a $\frac{1}{2}$ th oil-immersion. Abbe's condenser is the best, but an efficient substitute has been devised by Swift to screw on to the iris-diaphragm. The other apparatus necessary is a black dish (such as is used by photographers), half a dozen watch-glasses with flattened under-surfaces; a pair of scissors; a pair of broad-bladed forceps; filter paper; glass slides and cover-glasses; and a spirit lamp.

The following reagen's must also be obtained:—

Solution 1.—Neelsen's solution:—

Fuchsin 1 part.

5 per cent. watery solution

of Carbolic Acid 100 parts.

Alcohol 10 parts.

Solution 2. Dilute watery solution of Sulphuric Acid, 25 per cent.

Solution 3.—Methylene Blue.

Methylene Blue ... 2 parts.

Alcohol 15 parts.

Water 85 parts.

The selection of a suitable sample of sputum is of great importance, and it is advisable to procure that coughed up in the early morning before food has been taken, care being exercised to ascertain that the collecting vessel is quite clean.

The specimen is thrown out on to the black dish, and particles removed by means of the scissors and forceps. The portions should be chosen from the most opaque parts of the expectoration, and special search should be made for the yellow flakes so characteristic of tubercular sputum. A piece about the size of a pea should be taken and laid on the end of a glass slide, a clean cover-glass placed over it, and then by means of gentle pressure the little mass should be flattened out, and the cover-glass slowly slid off, so as to obtain a uniform layer on it. The film thus left must be as thin as possible, if it is uneven or too thick the process must be repeated (with the same specimen), and with a little practice no difficulty will be found in procuring a suitable preparation. A second particle must then be chosen and treated in the same manner, so that two films from different parts of the expectoration are ready.

The glasses are now allowed to dry in the air, or the process may be hastened by holding the glasses between the fingers over a spirit lamp. When dry, the films must be fixed, and this is accomplished by taking the glasses one by one in the forceps, and passing them three times through the flame, prepared side uppermost, so coagulating the albumen.

Some Neelsen's solution is placed in a watch-glass, and heated until steam begins to arise. The prepared cover-glasses are then immersed in the stain (I generally immerse one and float the other), and allowed to remain for two minutes. They are then removed separately, swilled in the dilute acid for about half a minute, and immediately washed in water; part of the colour will probably be restored. The glass must then be replaced in the acid, and again washed in water, and this procedure repeated until all the red colour is removed. It is important that this should be thoroughly accomplished; there is no fear of decolorising the bacilli, and if any colour remains in the general mass of the specimen, errors are very likely to arise.

The specimens are now counter-stained by placing them in the Methylene Blue solution for about half a minute, and afterwards washing in water. They are then dried by gently pressing them between folds of filter paper. The staining is now completed and the preparations may be examined in a drop of water, if a diagnosis only is required, or may be mounted in Canada balsam dissolved in Xylol, when they will keep for years.

For convenience the various steps of the above method may be summarised thus :—

1. Select opaque particles from morning expectoration.
2. Prepare cover-glasses as above described.
3. Pass cover-glasses, prepared sides upwards, three times through flame.
4. Stain in heated Neelsen's solution for ten minutes.
5. Wash alternately in dilute acid and water until all colour is removed.
6. Stain in Methylene Blue half a minute.
7. Wash in water.
8. Dry and examine in water or Canada Balsam.

Errors are most likely to occur in steps 2 and 5, and it must always be remembered that the film on the cover-glass ought to be as thin and uniform as possible, and that all colour must be removed after staining in the Fuchsine solution.

Stained by this method, the bacilli will appear as minute red rods, the rest of the specimen being coloured blue.

It now remains briefly to consider what conclusions may be drawn from the absence or presence of the bacilli. A negative result (their absence) is of little value, for, owing to the dilution of the organisms in the expectoration, it is quite possible, in one examination, to miss them. If, however, after repeated trials, bacilli are not found, there is a strong presumption, not amounting to proof, that the case is a non-tubercular one.

If the result is positive, and the red rods are found, it is absolute proof that there is a tubercular process proceeding somewhere in the respiratory tract, the stethoscope and laryngoscope will decide where. I have elsewhere (Transactions of the Medical Society of London, 1892) commented on the prognostic and diagnostic value of tubercle bacilli in the sputum, and given my reasons for believing that the numbers in which the bacilli occur in specimens thus prepared are no guide as to the acuteness or extent of the disease, these points must be decided on other grounds. Their

diagnostic value cannot be over-rated, and their early detection in doubtful cases may lead to such measures being adopted as to stay the course of the disease, whereas, had the diagnosis remained uncertain, and the true state of affairs not discovered until later, the prognosis would necessarily have become more grave. Cases are constantly occurring in which the whole method of treatment would be altered, were the case at once recognised as one of incipient pulmonary tuberculosis, and the discovery of the tubercle bacillus is a surer guide than the stethoscope and the thermometer, especially if the physical signs and history are at all doubtful.

THERAPEUTICAL NOTES AND FORMULÆ.

Antiseptic Treatment of Pulmonary Phthisis is thought by Delteil to be physiologically indicated, and that non-toxic, antiseptic, gaseous mixtures, such as the Essential Oil of Turpentine, containing Iodoform or Iodine, are useful. These are certainly absorbed, and the urine shows the presence of Iodine carried by the Essential Oil.—(*Med. Rec.*)

Removal of the Posterior Half of one of the inferior turbinated bones by galvano-cautery, in a case of Grave's disease, resulted in immediate improvement in all the symptoms, and Mûchold, who observed it, thinks reflex disturbances may possibly occasion the disease in rare instances.—(*Rev. de Laryng.*)

Eczema of the Vulva.—Lusch gives the following formula :

| | | | | |
|---|---------------------|-----|-----|----------------------|
| R | Tinct. Opii. | | | |
| | Sod. Bicarb. | ... | ... | āā 8 parts |
| | Potass. Bicarb.... | ... | | 4 " |
| | Glycerin. (neutral) | ... | | 6 " |
| | Aq. Dest. | ... | ... | 260 " |
| | | | | (<i>Med. Rec.</i>) |

Ointment for Excoriations in Infants. (*N. Y. Med. Journal*) :

| | | | |
|----|-------------------|-----|-------|
| R | Acidi Salicylici. | ... | gr.x |
| | Bismuth. Subnit. | ... | ʒij |
| | Amyli ... | ... | ʒiiss |
| | *Ung. Aq. Rosæ | ... | ad ʒj |
| M. | Ft. unguent. | | |

* Cold Cream.

THE CLINICAL JOURNAL.

WEDNESDAY, MARCH 15, 1893.

A CLINICAL LECTURE ON THE AFTER HISTORY OF GASTRIC ULCER.

Delivered at the Middlesex Hospital, March 3rd, 1893,
By **SIDNEY COUPLAND, M.D., F.R.C.P.,**
Physician to the Hospital.

GENTLEMEN,—In many forms of disease the clinical history extends over so long a period that, when the patient presents himself for advice, his sufferings are not always connected in our minds with the condition which many years previously acted as the starting point whence all his subsequent troubles have arisen. In thinking over a suitable topic for to-day's lecture I have used this as my text. In the wards you often see patients of middle or advanced life whose illness is directly dependent on some disorder of early life. It is not uncommon to see such conditions as the result of Gastric Ulcer, and as we have in the wards at present two cases of this class which you have seen, I will take them as the subject of my lecture.

Gastric ulcer is by no means a rare affection; it has a definite clinical history and is easily diagnosed as a rule. When rational treatment, such as rest of the damaged organ by enforced abstinence, is carried out, recovery from the lesion is the rule. For although in a small minority, the depth and extent of the primary ulceration may carry off the patient from hæmorrhage or perforation, yet most of those attacked do recover from the early symptoms, some happily with no further manifestations of the disease, whilst others eventually show in their later history that the lesion has not been cured, but remains to give rise to serious troubles, some of which we are to consider this afternoon. There are some cases, too, in which the early symptoms are so slight that the patient does not consult a medical man, yet slight as are these subjective symptoms, the pathological condition is nevertheless present, and the patient may present in later life symptoms which are just as troublesome as if the early ones had been severe. In other cases, though medical aid has

been sought, yet, owing to the slightness of the symptoms, the condition is not thought to be one of gastric ulcer, and therefore not subjected to the necessarily strict line of treatment which can alone give promise of permanent healing of the defect. I believe that one might go so far as to assert that had such cases been recognised and suitably treated in their initial stage, the later troubles might not have arisen. For an ulcer of the stomach which is prevented healing by constant mechanical irritation (and it is necessarily subjected to this at frequent intervals) is likely to increase steadily in extent, both as regards depth and area. The conditions that may consequently result from gastric ulcer are mainly the following:—

(1) Those due to local peritonitis, producing adhesions between the stomach and adjacent organs, e.g., the left lobe of the liver, the pancreas and the transverse colon. These adhesions do not at first produce much trouble, but as the ulceration extends in depth the floor becomes formed by the tissue of the pancreas, liver, or colon, and so we get ulceration of these organs, leading in the last-named case to a fistulous communication between the stomach and the colon.

(2) Another result is the formation of a peritoneal abscess. This generally occurs behind the stomach, forming a large collection of pus under the diaphragm; if gas collect in the cavity it may yield signs simulating pyo-pneumo thorax (Leyden). In some cases the abscess bursts into the pleura, or more rarely into the pericardium.

(3) Those conditions due to contraction of the cicatrized ulcer producing distortions of the stomach, such as that known as the hour-glass contraction, and the more common form of general dilatation of the viscus due to stenosis of the pylorus.

There are other and rarer eventualities which I need not now refer to.

It is important to remember the conditions I have described, as you may be puzzled in cases seen for the first time when these lesions are well advanced, and where the early history of gastric ulcer is not readily obtained.

It is remarkable often to find in the class of cases of which I am speaking, how comparatively slight and unimportant have been the earlier symp-

toms; how little they may have impressed their subject, and yet their recognition is the key to the correct diagnosis of her ailment. She may have suffered from "indigestion" for years—pain and discomfort after every meal, flatulence, acidity, and perhaps occasional attacks of vomiting; but she has borne her burden as an inevitable part of her existence, and the very constancy of her suffering has deprived it of much of its meaning. She has probably had recourse to domestic remedies, has learnt by experience to avoid certain articles of diet; but does not consider that her trouble is graver than that of many other martyrs to dyspepsia with whom she is acquainted. It must be remembered that vomiting is not invariably present, and that the more alarming symptom of hæmatemesis only occurs in about 50 per cent. (or fewer) of cases of gastric ulcer. The subject of this disease may never have been laid up or disabled from her duties in life, and yet, all the while, from early womanhood to perhaps 40 or 50 years of age, she has had a lesion of the stomach, the presence of which is for the first time manifested at that later period, when it is forced upon attention by a train of symptoms which may have the gravest issue.

These then are some of the difficulties in the way of a prompt recognition of the nature of the case. A further one is the difficulty of diagnosing between a case of simple gastric ulcer and one of ulceration due to malignant disease. Definite rules are laid down, and are of great help; but there are exceptions to all rules, and it is often most difficult to know whether the case is in accordance with the rule or is an exception to it. Thus, if the patient be markedly anæmic and cachectic, one would suspect malignant disease, and yet the condition might be produced by prolonged malnutrition as the result of a long persistent ulcer. There is no distinction in their issue, both tending to a fatal end. One finds that a case which has clinically run a malignant course has pathologically for its cause a (so-called) "benign" condition. The converse is equally true; many a case thought to be simple gastric ulcer during life being found subsequently to have been one of carcinoma ventriculi, the special signs of which have been latent and obscure.

Apart from cases of this hopeless nature, in which, whether the ulceration be simple or malignant, it is all one as regards the near approach to a fatal termination, which it is impossible to avert; we are sometimes confronted with examples of

disease of the stomach that belong to the after-history of simple ulcer, but which present palpable "tumours," *i.e.*, swellings. These are only tumours in the clinical sense; pathologically, they have nothing to do with neoplasms, either adenomatous or carcinomatous; for they are formed by thickening due to chronic inflammatory changes at the margins and base of the ulcer. The importance of their recognition in its bearing on prognosis is obviously great.*

There is one method largely pursued in Germany and fully described by Professor Ewald in his classical lectures on diseases of the stomach, by which it is claimed that we can differentiate between simple and malignant ulceration of the stomach. It is based on the fact (first discovered by the late Dr. Golding Bird) that in the malignant form there is a deficiency of the hydrochloric acid in the gastric secretions; and the corollary (established by many recent observers) that in the simple form there is an excess of this acid. I have, myself, no practical experience of this method, which, to be accurately carried out, involves the examination of the secretion during digestion, and not merely of the material that may be vomited. There are several tests—some of great delicacy—for the detection of free hydrochloric acid, but some of these also react to the organic acids, and an examination of vomited matters is therefore not so reliable as that of the secretion itself. Personally, I shrink from the risks which are inseparable from the method of lavage in the presence of an ulcerated stomach. But in other conditions of functional dyspepsia, the examination of the gastric secretion is an addition to our resources of admitted value, and for its application and method I cannot do better than refer you to a recent lecture by Dr. Robert Saundby.†

I will now briefly describe some cases which you have all seen illustrative of the conditions mentioned as due to gastric ulcer.

Case 1.—E. O., an unmarried woman, æt. 44, was admitted into Murray Ward, November 28th, 1892. She was very cachectic and careworn in appearance, and markedly emaciated. She complained of pain in the epigastrium passing through to the back. It was persistent and aggravated

* I have not alluded to the development of cancer at the site of a chronic ulcer, an event, I think, of greater rarity than one is sometimes led to believe.

† "The Clinical Journal," Vol. I., No. 4, November 23rd, 1892.

by food. She stated that thirty years ago she had "gastric fever," but cannot remember what the symptoms were. We do not know the precise nature of that illness, but at any rate it was the starting point of the dyspeptic symptoms from which she has suffered ever since. She was at first treated for dyspepsia, and somewhat improved; later on her trouble was attributed to her "liver being out of order," and later still she was treated for gastralgia. There has been, so far as she knew, no hæmatemesis or melæna, only recurrent attacks of pain and vomiting. In June, 1891, commenced an attack which lasted for a long time, and she lost both flesh and strength. She was very anæmic on admission, her blood only containing 18 per cent. of hæmoglobin, and 1,440,000 red corpuscles per cubic millimetre. The case might well have been taken for one of pernicious anæmia. There was tenderness on pressure in the epigastrium, marked resistance in the right hypochondrium, and there was a swelling above the umbilicus, extending chiefly to the left, and slightly to the right of the middle line; it was tympanitic and globular; it yielded splashing sounds, and doubtless it was a distension of a portion of the stomach. This swelling varied in extent, and also in position from time to time. There was a hæmic systolic murmur at the base, and a venous hum in the neck. Vomiting was frequent, and the pain so great and so constant that she had to be kept under the influence of Morphia. On the 6th of December, 1892, she vomited half a pint of blood. In consequence of this, and notwithstanding her enfeebled state, I ordered her nutrient enemata every eight hours, alternating with beef suppositories every eight hours. After being fed in this way for ten days, I returned to feeding by the stomach, not feeling justified in withholding it any longer, seeing how prostrate she was. On the 16th December, 1892, we had evidence of thrombosis in the left iliac vein, such as occurs in subjects of exhausting diseases, the left lower extremity becoming swollen and oedematous. The clotting probably spread into the vena cava, as the right leg subsequently commenced to swell. Fortunately she was now able to take light food without vomiting, and by exercising care as to her diet, and keeping her quiet, she has, as you have seen, markedly improved; for some weeks she has been sitting up, and is gaining flesh and colour. Her recovery has been somewhat retarded by severe bed-sores, which had commenced to form before

her admission. The treatment has been simple: in the first place abstinence from food, followed later by a careful diet; in addition, everything has been done to control the vomiting and relieve pain.

The diagnosis seems to be clear; she has suffered from gastric ulcer for the past thirty years, the ulcer has extended, part of it has healed and cicatrized. As a consequence the stomach has puckered, and the tumour felt is due to distension of a portion of the viscus, partially shut off from the rest by this cicatrization. It is illustrative, therefore, of the conditions in class 3. The extreme degree of cachexia, simulating that of malignant disease, which was the first interpretation of the case, bears out the fact to which I have already alluded, *vis.*, that in simple chronic ulcer nutrition may be as profoundly interfered with as in cancer. The prognosis in this case has become far more hopeful, although the extent of the lesion precludes the idea of her ever becoming thoroughly restored to health.

Case 2.—E. B., a widow, æt. 45, was first admitted under the care of Dr. Cayley in January, 1892, suffering obviously from gastric ulcer. She then stated that ever since 16 years of age she had suffered from "bilious attacks," but had never laid up until 1891. She remained in for some time, and eventually left apparently cured.

She came back,—this time being admitted into Murray Ward,—in September, 1892, and was in appearance very thin, anæmic, and cachectic. She stated that a fortnight after her return home in March she had a recurrence of her old symptoms, and had suffered ever since, latterly vomiting everything, but never any blood. The bowels had been constipated, and she complained much of flatulence, and of pain and tenderness in the epigastrium. No tumour could be felt. She was ordered nutrient enemata, but they had to be given up owing to her inability to retain them. At first vomiting was a prominent symptom, and in the early days of October she had an attack of diarrhœa, which still further prostrated her. This was controlled by aromatic chalk powder and bismuth; and although for a few days she seemed to improve, it was obvious that she was not really gaining ground. Emaciation progressed, and on October 14th signs of ascites appeared. In spite of great care in dieting, she suffered from occasional attacks of vomiting and diarrhœa, and sank from exhaustion on October 27th. The post-mortem examination

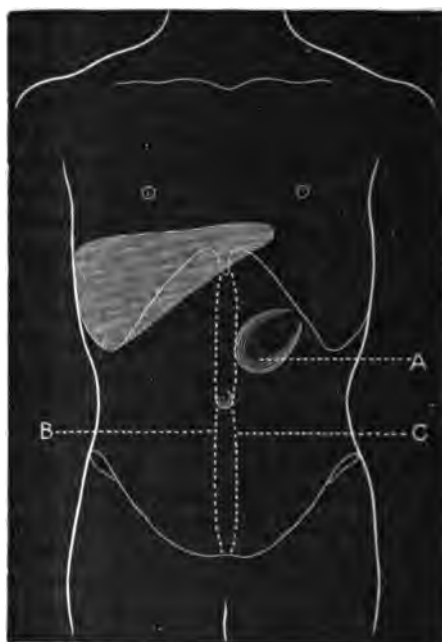
was made by Dr. Voelcker on the following day, and I may give from his report some of the salient features exhibited. The abdomen contained 160 ounces of clear straw-coloured serum with a few flakes. The visceral peritoneum was opaque, and in places minutely granular, especially over the mesentery. The transverse colon adhered to the gall bladder, and bands of adhesion passed between it and the greater curvature of the stomach. Some lymphatic glands in the vicinity were large, firm, and whitish, as if infiltrated with new growth; and similar glands occurred in the pelvis, whilst the parietal pelvic peritoneum was studded with opaque granules. The stomach (which I have here before me) was contracted, and contained a little liquid mucus—no blood. Laid open along the greater curvature its walls are seen to be obviously thickened, especially the muscular coat, the sub-mucous being firm and pale. One and a half inch from the pylorus is a transverse ulcer on the posterior wall, smooth and pigmented, with a polypoid mass of mucous membrane projecting from one side. The pyloric ring admits the little finger. The mucosa of the rest of the stomach is corrugated and swollen. The liver was brown, atrophied, weighing only 22 ounces. Neither it nor pancreas contained any new growth, but a nodule thought to be of that nature, was seen in the descending colon, and the glands about the head of pancreas were firm and white. The kidneys were slightly granular and wasted. The uterus was the seat of several fibroid growths. There was some thickening of the mitral valve with a small vegetation on its posterior cusp, and the heart was in the condition of brown atrophy; the lungs emphysematous and pigmented.

Dr. Voelcker was fully justified in inferring from the appearances exhibited by the stomach, peritoneum and lymphatic glands, that the disease in the first-named organ was of malignant nature. He has, however, been enabled to rectify this first impression of the nature of the case; for microscopical examination has failed to detect any of the epithelioid elements which characterise carcinoma. He has kindly lent me a preparation of one of the apparently infiltrated glands, which I have placed under the microscope, and you can see for yourselves that it exhibits no other features than those of chronic inflammatory change. I believe that the peritoneal thickenings are of the same nature, and that we have in this case a striking instance of the simulation of malignant

disease, not only *intra vitam*, but even in its morbid anatomy, by the long-lasting and slowly progressive inflammatory changes, that have supervened upon an ulcer of the stomach formed in early life.

Case 3.—E. W., a widow, 51 years of age, admitted into Murray Ward on February 24th, 1893. She had suffered from "indigestion" for years, but had otherwise enjoyed fair health. However, of late she had been subject to winter cough, and since an attack of influenza, seven months ago, she had more frequent attacks of

FIG. 1.



- A. SWELLING.
- B. MARGIN OF RIGHT RECTUS.
- C. MARGIN OF LEFT RECTUS.

abdominal pain and some vomiting. There is no history of cancer in her family.

She was sparsely nourished, but not emaciated; and her lips were of good colour. On examination there could be seen and felt through the flaccid abdominal wall, a prominent swelling of somewhat oval shape between the costal arch on the left side and the umbilicus. Its precise area was difficult to define owing to the projecting and rigid rectus muscle, which was separated from its fellow by a wide interval (she had borne several children). The swelling does not move with

respiration, and there is no manifest dulness on percussion over it (see fig. 1), but the pulsation of the aorta is communicated to it. There is some tenderness in the epigastrium.

Over the chest there were a few rhonchi and the signs of emphysema. During her stay in hospital the patient has vomited frequently, usually from one to two hours after taking food; and has also at times experienced some pain—which has been relieved by the vomiting. The vomited matters contained altered blood on one occasion, and sarcinæ were also found in them. Their reaction to litmus-paper was acid. Under treatment by rest and the administration of sedatives and bismuth, the symptoms gradually abated; and although there has been a slight intercurrent attack of diarrhoea, her condition now has much improved. No change has been observed in the swelling.

I must admit that this case is suggestive of malignant disease, and some may think that the fact that when the vomited matters were once tested with Congo-red paper they failed to give the blue reaction, is in favour of that diagnosis. But looking to the case as a whole, I am more inclined to believe that it really falls under the category to which the foregoing belong; and therefore I do not think the prognosis so extremely unfavourable.

Did time permit I could quote many examples—some even more striking—which have come under my notice in our wards; but for the present I must refrain, and leave for a future occasion the further exposition of a subject which has so much clinical and pathological interest.

For Fissures of the Nipple. (*Times and Register*):

- R. Tr. Benzoin. Co. ... gt.xv
 Ol. Olivæ ... ʒij
 Lanolini ... ʒvj
 M. Ft. unguent. To be applied after nursing.

Treatment of Croup:

Dr. N. S. Davis says all the indications for Treatment in Croup, in the mid or superficial form of disease, can be filled by the administration of:

- R. Syr. Ipecac. ... ʒix
 Syr. Scillæ. Comp. ... ʒiss
 Tinct. Opii. Camph. ... ʒij
 M. Sig. Half teaspoonful every three or four hours.—(*Med. Rec.*)

A CLINICAL LECTURE

ON

PARAPLEGIA AS A RESULT OF SPINAL CARIES (COMPRESSION MYELITIS) AND ITS TREATMENT.

Delivered at the National Hospital for Paralysis and Epilepsy, March 2nd, 1893, in connection with the London Post-Graduate Course,

By VICTOR HORSLEY, F.R.S., B.S., F.R.C.S.,

Surgeon to the Hospital, Assistant Surgeon to the University College Hospital, etc., etc.

It so happens that we have in the hospital at the present moment a number of cases of caries of the spine, in which the operation of laminectomy and opening of the abscess posteriorly has been performed to relieve the chief symptom which bring such patients into this hospital, namely, paraplegia, especially motor, paralysis, and which is the most prominent feature of compression myelitis. I shall be as brief as possible when dealing with the method of the operation of laminectomy, because that, now-a-days, is very thoroughly understood, and has found its way into the text-books; but there are other points which arise during an operation which are not described in the text-books, and it is partly for that reason that I have chosen this subject to-day.

Consider first the nature of compression myelitis arising from caries of the vertebræ. It is usually supposed that in caries where we have a very obvious bony deformity, that *that* is the chief cause of the paralysis; and, therefore, the first consideration which we should have before us—namely, the onset of the caries—must depend, according to that view, upon the origin and the degree of deformity. But you will see directly that that general view is not correct, and that, in fact, the paraplegia and the other symptoms of compression of the spinal cord are not only due to bony deformity, but also to the condition of the perithecal tissues around the dura mater. Consequently, when considering the first clinical feature, namely, onset of the caries, it is not so much use our directing attention to the deformities as to asking the patient how the general condition came about. The way in which the symptoms of compression myelitis arise is fairly constant in each case. The symptoms are usually insidious at first, and for a long time symptoms may be present of which the patient takes no

notice, but in the history of a large proportion of these cases you will find that there is some reference by the patient to an accident. Constantly we are told that the symptoms first came on after a fall or strain, or something of that sort. As is well known the seat of the lesion in caries of the vertebral column is almost invariably in the body of the vertebræ, just under the disc of hard compact bone which separates the vertebræ from the intervertebral cushion or disc. Further, tubercular disease in that position begins and extends for a considerable time before it produces any change whatever in the relation of one vertebra to another. It is quite possible that in any given case there may be considerable destruction, and that then a sudden effort or severe fall may determine the onset of severe compression. This may be due to the sudden rupture of an abscess cavity back into the neural canal, or to hæmorrhage in the same neighbourhood, or to displacement, or sub-luxation of the bodies of the vertebræ, and then sudden compression by the bony deformity.

So much for the onset; as regards the seat of the lesion, I shall say nothing further respecting the point at which it arises. But given tubercular destruction of the bone, and destruction of the intervertebral disc with the formation of an abscess cavity projecting in front, at the sides and backwards into the neural canal, there remains the next question, namely, what is the state of the contents of the neural canal? Of course it goes without saying that in accordance with the lesions of tuberculosis in other parts of the body, all the parts in the immediate neighbourhood of the wall of the abscess must be in a state of chronic inflammation, as for instance, the ligaments and the perithecal fat, etc. Now, as regards the shape assumed by the abscess, it is an important and practical point for you to remember that the posterior common ligament uniting the bodies of the vertebræ is not spread out over the whole of the posterior surface of the bone equally, but is simply a narrow median band of very strong fibrous tissue, which thins off at the sides as to be practically non-existent. Therefore when the abscess works back so as to approach the lumen of the neural canal, it always does so by projecting backwards as two sacs (one usually bigger than the other) on each side of the posterior common ligament.

We further find that the perithecal fat which lies all around the theca becomes the seat of chronic

inflammation; and thus the sac wall becomes notably adherent to the theca. In Cruveilhier's drawing this is represented extremely well, and this tissue becomes so dense even in a fairly recent case that it is quite capable of producing very severe compression much in the same way as Dr. Macewen has said, like a tumour.

This condition of the peridural tissues is a very practical point in the pathology of the disease to bear in mind when discussing the nature of the lesion causing the compression.

Let us pursue this subject a little further, and see what is the condition of the membranes and cord inside the theca. In the vast majority of cases it is exactly as is depicted here, that is, normal. Consequently, contrary to the general rule, to be obeyed in the case of exploratory operations, we should in caries be loath to open the dura mater, because you will almost invariably find that it is normal. From the analogy of the peritoneum you will not be surprised that the arachnoid exactly opposite the seat of lesion is more or less fibrous and adherent to a certain extent, but such slight change is of no practical importance. The tubercle bacilli evidently do not penetrate the dura mater, or certainly not in 99 per cent. of such cases; moreover, the researches of Schmaus have shown that, except by direct infection, tubercular lesion of the cord itself in cases of caries is excessively rare. I have operated in many cases here, and have never seen one; I have seen softening, but softening which could not be shown to be due to local tubercular lesion on microscopic examination: such softenings are the simple continuation of the degenerative change produced by continuation of the compression myelitis in instances where the patient's age, etc., did not enable recovery to take place.

To sum up the seat and character of the lesion it is perfectly obvious that we have two points to consider clinically: (1) whether the bony deformity is responsible for the compression; or (2) whether the inflammatory mischief is causing it. Judging from a large number of cases I have come to the conclusion that it is not the bony deformity so much as the inflammatory mischief, a passing proof of which is that cases treated from the first with absolute rest and fixation, usually improve and do well. The next practical point to discuss is whether the inflammatory mischief is of the nature of an abscess, or whether it is simply chronic pachymeningitis. I say it is a practical

point because it certainly makes a difference in the prognosis. If there is present a large abscess the prognosis is bad, but if we have only to deal with a case of chronic pachymeningitis the prognosis is extremely good. As far as the undertaking of operative treatment goes it, of course, matters not in the least whether the compressing agent is an abscess or pachymeningitis. In each case it must be freely removed.

Next, taking the points *seriatim*, we come to the direct symptoms produced by the compression. The symptoms of compression myelitis are very much the same, whatever the nature of the compression, with one very prominent exception, namely, pain. In compression from caries local pain* is extremely rare; in new growths we know that it is, unfortunately, as common. But I need not dwell upon that now, because, practically, in the vast majority of caries cases that we have to deal with it is absent. The chief symptom is, of course, loss of motor power; it is the one which attracts the most attention, at any rate. Of the paralytic phenomena it is the most marked in compression from caries, and we frequently see widespread loss of motor power with very fairly persistent sensory power, using the term sensory to include all forms of sensation, *i.e.*, reaction to temperature, to touch, localisation of pain, and so forth.

As regards loss of power, it is not of very great service in enabling us to find the seat of the lesion, *i.e.*, of greatest compression, and not nearly so useful as loss of sensation. Loss of motor power is a point of vital interest to the patient, but it does not help us in the exact localisation diagnosis of the condition. But certain facts about it, *e.g.*, the way in which movement is lost and the rapidity with which it returns after the compression is removed are naturally important. In the first place, in comparing motion and sensation, the loss varies in different patients, and in a way that has not been accounted for. If we look at the spinal cord in a transverse section it is obvious that the loss of power, other things being equal, would be more marked if the circumference of the cord is affected chiefly as it is by external compression, than loss of sensation because the crossed motor tract is so near the surface of the cord. I may say at once that the old notion that loss of motion was so pro-

minent a feature because the bony deformity caused compression on the *anterior* portion of the spinal cord is not in accordance with modern knowledge of the localisation of function in the spinal cord. The sensory channels being, in the main, central, are, of course, preserved longer because they are further removed from the seat of the mischief, *i.e.*, from the effects of pachymeningitis. The loss of power is often of a peripheral kind; the peripheral segments losing mobility first, and the recovery occurring conversely.

Next, as regards the loss of sensation. You must investigate very carefully the degree and localisation of the loss of sensation, because this will afford you means of very often diagnosing the exact seat of the compression. Let me remind you that loss of sensation in caries may be due to two causes, and be, therefore, of two different kinds. There may be loss of sensation from pressure on the sensory tracts in the *cord* at the point compressed, or from sensory nerve roots being involved in the pachymeningitis, etc.

We ought, in the first case, to get anæsthesia up to the actual point of compression. Suppose the seventh dorsal vertebræ to be the seat of compression; under such circumstances we should anticipate that the zone of anæsthesia or paræsthesia, the importance of which I have elsewhere denoted, would be limited above by a line drawn from the ninth spine, behind, to the umbilicus in front. This is one form of anæsthesia observed in caries; but there is another, an example of which you will presently see in a patient, in which we have sufficient compression of the cord to produce complete motor paralysis, but not sufficient to paralyse the ascending tracts in the spinal cord. In such a case, in consequence of there being an abscess at the seat of disease, and considerable meningitis of certain nerve roots involved, and moreover, possibly owing to the extension of this condition lower down, there is a certain degree of anæsthesia over the front of the abdomen. But anæsthesia of this kind is local anæsthesia, due to implication of a few roots; sensation is perfectly normal, from the soles of the feet up to the iliac crests, above which we have this area of incomplete anæsthesia. Such loss of sensation is a very different thing from anæsthesia produced by the compression of conducting tracts in the cord, and which, when it occurs, involves all the parts below. Therefore, in testing the anæsthesia of a patient, you must have regard to both those kinds

* Where present it is due to involvement of a nerve root in the wall of the abscess (condition seen in operation), or to pinching of nerves in the intervertebral foramina owing to the collapse of the vertebral bodies.

in forming your diagnosis. However interesting this point, I cannot pursue it further this afternoon than to remark that, in cases where anæsthesia occurs, under any circumstances, it is not sufficient to test one form of sensation, you must test all; and it is not sufficient to employ only very light touches as stimuli, but also Westphal's method of a very weak faradic current, appreciation of pressure, of the pin-point, *i.e.*, pain, of heat and cold. It is best, also, to test the paralysis of secretion, perspiration, by employing the original method of Straus, *viz.*, the injection of Pilocarpin, and then often you will have a line of limitation of sweat dividing the body into distinct fields, one sweating too much, and one, as a rule, much less, or even not at all; this helps one very much indeed in arriving at an exact determination of the point which is the acme of compression of the cord.

Then, naturally, the condition of the reflexes, chiefly the deep reflexes, is a matter of great importance. So far as the deep reflexes are concerned they are exaggerated in proportion to the amount of injury to the cord produced by compression: further the so-called jumpings and startings of the limbs are also due to the same factor. There is one point here I should like you to note, and that is, if there is very severe compression myelitis, and this be unrelieved, it ultimately involves the cord below the point compressed, and then there is observed gradual diminution and loss of the reflexes.

Next, as regards the lumbar centres controlling the bladder and rectum, these have occasionally been noticed to have been involved even in very early stages of compression, and cases have been recorded in which affection of the lumbar centres was the first symptom which attracted attention. I do not think this has occurred in cases which have been very thoroughly overhauled, and it is, of course, possible that other symptoms have been overlooked. However, it is equally possible that if we have the disease situated opposite the lumbar enlargement we might have direct affection of the lumbar centres before serious affection of channels.

We will now enter upon the last part of our subject, Treatment. I have already suggested that we must always divide cases of caries into (1) acute, with the formation of an abscess; or (2) chronic, with the condition of pachymeningitis. There is another point to be added here as a corollary, and that is the question of ankylosis.

Ankylosis unquestionably occurs as a condition to be sometimes considered apart from No. 2. I shall show presently a patient in whom there was a very marked degree of bony ankylosis, and in whom, therefore, it was probable that even after operation recovery would be extremely slow, since one could not in any way hope to abolish the prominence of the major curvature of the spine. However, as you will see, there is already gratifying improvement. Naturally in acute destruction and suppurative disorganisation of the bone, the case is quite otherwise, for we may even, as I have twice seen, find the lower part of the trunk movable on the upper after the laminæ at the region of disease have been removed. Consequently in this latter state of affairs extension and fixation will effect obliteration of the major curve, which is impossible in firm ankylosis. The condition of the bone, therefore, as regards "plasticity" has to be added to the conclusions drawn from the investigation as to whether the disease is acute or chronic. In close connection with this subject there is a factor which also demands consideration quite apart from the general one: it is that of age. In the case of strumous disease or tuberculosis attacking a person beyond fifty undoubtedly the prognosis is bad: far worse, in fact, than in the case of a younger individual, and the tendency for the myelitis under these circumstances to be progressive must be borne in mind.

As to methods of treatment, unquestionably if the patient is seen early, there can be only one idea as regards the advisability of subjecting him at once to *elastic extension*. The patient is placed horizontally, preferably on a water bed, and then, no matter where the curve is or in what part of the spinal column the disease is situated, the long axis of the body should be subjected to elastic extension. The best way of securing it is to put on a chin strap, an occipital strap united to a cross-bar above the head, as in the ordinary jury mast, to have an india-rubber so-called accumulator fixed to the centre of this bar and to the head of the bed; then for the opposite end of the axis, if the disease be high up, it is sufficient to put on a pelvic band, as in Millard's apparatus, and similarly a cord passing down beneath the pelvis with an india-rubber accumulator in its course. In most cases, however, the extension is effected by anklets. It is usual to put on also, under the axillæ perineal bands fitted with india-rubber accumulator. Of this method of treatment I think most highly; and in one instance I have seen a young

man weighing over twelve stone recover power so rapidly that he left the hospital in a couple of months. Thus by these means we have a good method for fixation of the spine, and at the same time a powerful agency for obliteration of the curve.

The cases which come into hospitals, especially one of this kind, are usually very severe, and often illustrate the disadvantage of putting on a Sayre's plaster jacket without special care. In some cases where a patient has been kept horizontal in bed, and has been fitted with one of these jackets, good has resulted; but as practically all cases which have to be treated by operation, have been treated by Sayre's jacket and then allowed partly to get up, I think that the use of the jacket involves a certain amount of temptation to think that the fixation obtained is all that is required, and yielding to which belief, frequently lands the patient in a worse state than he was before. Elastic extension has not this objection. As soon as a jacket is applied it is considered that the patient may be allowed to get up shortly; but the extension method of necessity makes that impossible. That, I believe, is the reason why the latter is more effective than the use of the jacket.

If the symptom of paraplegia is well marked, and if it has not yielded to extension and fixation of the spine, then comes the question of operation, or, at least, that is the opinion of many practitioners. Personally I do not think that is the moment to wait for. In my opinion a point of equal importance in the diagnosis is whether or not there is an abscess present. This is unquestionably often a matter of extreme difficulty to determine, but even if there be only a reasonable probability of the presence of an abscess operation should be undertaken from that point of view rather than delayed while waiting for other methods to prove useless.

If operation be undertaken it must be clearly understood for what reason and at what point it is to be performed. First, as regards the centre point of the operation, the acme of the bony deformity is usually a sufficient guide.

The tip of the spine which forms the acme of the curve takes you to a point just below the actual seat of greatest compression. So in all operative interference for this condition after having made the customarily vertical incision, and having followed down this spine, the next step is to clear the spine immediately below it, and, as a

rule, the root of the spine below it. Next, with suitable forceps to cut away the spinous processes, and then to trephine the laminae plate.

Usually it will be found better after having cut the spines with the forceps, and after having entered with a trephine through the laminae, to make two lateral cuts with a saw, and then with a bony forceps to most cautiously cut out this disc, then remove piecemeal the laminae I have mentioned. Having done that you come upon the theca, which is surrounded by dense adherent fibrous tissue and inflamed fat, and usually bleeds freely. All these manoeuvres have, I say, to be done with gentleness; it is in fact impossible to be too gentle in cutting away the pieces of bone, and it is impossible to be too careful not to insert the blade of the instrument into the neural canal, as is too often done. It is far better to insert only the point of the forceps, and to put the other point further up on the outside, and in closing the forceps to take care to put pressure away from the cord so that when the cut is made the forceps jump outwards, and thus there is no possibility of injuring the cord. To dispose of the tissue surrounding the theca, it is simply divided in the middle line. An operator not accustomed to the appearance of affairs might in doing this think there is risk of cutting into the spinal cord; but the theca is really unmistakable, and can easily be distinguished from the surrounding tissue, which is then cleared away so as to expose the whole of the surface of the theca. Having the theca clearly exposed you are then able to see the point of greatest compression, because almost always the theca pulsates down to that point, and not below it.

The next point is to look for the abscess. On clearing away the perithecal tissue you find nerve roots leaving the theca; they are usually congested, and where the abscess is projecting backwards there is to be found a little oval tumour which is always reddish, sometimes slightly yellowish on the surface where the pus has almost got through the walls of the sac. Having found the abscess, nothing is easier than to lay it open and to scrape it out from behind. A sharp spoon is passed in front of the cord and passed at once into the abscess cavity, carefully drawing all the pus therefrom; it is thus scraped and syringed from behind, and then a tube is put in parallel to the edge of the cord at right angles to its (vertical) plane.

There is only one drawback, as far as I can see, to operative interference, and that is the chance of

general tubercular infection. I have seen one case in private which might be attributed to this cause. A lady suffered from tubercular disease of the lungs, and after operation acute tuberculosis rapidly developed. I think this was possibly due primarily to infection from the wounded surface. Since then I always use Sublimate solution, 1 in 500, to disinfect the abscess cavity, so as to prevent an accident of this kind.

Recovery is sometimes very slow, but it is sometimes rapid, as in the case of a patient upon whom I operated some years ago, and who began to recover fourteen days after the operation, although paralysed in all four limbs, and partly also of respiration. He is now perfectly well. I have found since that it is not at all uncommon for a patient to begin to recover motor power about fourteen days after the operation. In some cases, however, recovery is extremely slow, for reasons the explanation of which I do not yet see.

Now as to the causes of apparent failure. In operative treatment this is, I think, chiefly due to our possibly not having done enough. I will show a case in illustration of this. The cause of apparent failure may perhaps be also due to the fact that the cord has already undergone severe injury from the compression myelitis, that degeneration has occurred, and anterior polio-myelitis even (may be) set up. Of that condition we have recently had a case, and the patient is now at a convalescent home. He had caries of the fifth and sixth cervical vertebræ, with paralysis of both arms and legs, with marked atrophy of the interossei of the left hand. His left hand is clawed, and will probably be so all his life, as I fear his cord has suffered irreparable damage; but he has recovered power, and can both walk about and use his arms freely.

We can now admit the patients. This one is 21 years of age, and since 9 years of age he has worn a jacket for curvature of the spine; so he has had the disease at least twelve years. This was a case in which we found very considerable bony ankylosis, and large curvature, the acme of which reached from the eighth to the tenth dorsal spine. He had paraplegia which commenced early in April, 1891, now about two years ago: and even the lumbar centres became early involved. On examination he was found to have a large curve, so large that there was no sharply marked acme of compression. However, on his sensation being very carefully tested by Dr. Bowman, a distinct

zone and an accurate record was obtained. The perspiration excited by Pilocarpin indicated a line of compression paresis, up to just about the centre of this large curve. At the operation, undertaken owing to the fact that no improvement had taken place for a long time, and that the spine was ossified, it was found that he had, as I have already said, considerable bony ankylosis. All the fibrous tissue, etc., round the theca was removed, and now he has already begun to recover power. He has an immense amount of spastic condition both of adduction and extension, but even this will pass off ultimately. As you see he can now move his limbs and flex his hips very well; he can move the legs outwards and downwards, and can also move his ankles. Thus you see recovery is possible even after a long period, and, moreover, even when accompanied by such a severe degree of spastic rigidity. The spasms in the night, and reflex drawing up of the limbs, all that will disappear ultimately now that compression is removed. It is a matter of some little interest to observe that the reflex spasms are often increased for a certain time, *e.g.*, about a month after the compression is removed, as if the excitability of the cord were thereby heightened.

The next is a case of compression of the cord, not from caries but from another cause. I show this patient since he illustrates exactly the same condition as that of caries high up in the cervical region. This man was admitted into the hospital at the end of last summer, and his history is a very remarkable one. In July, 1892, he fell off a van into the street, and struck the back of the right shoulder. He got up and walked home, about 200 or 300 yards; he felt nothing much till the next morning, when he found that he could not lift his right arm on account of the pain. He went to one of the general hospitals, and there his arm was bandaged to his side. During the next few days the pain in the arm increased: you will observe that pain was the only symptom. He then went to the Hackney Infirmary, and walked about for a week, when one morning he found that he could not stand; his right arm had become weak as well as painful; a week after entrance his left arm had become painful, and at the end of a fortnight both arms had become painful and weak, and his legs paralysed. To make a long story short, when he was admitted here under Dr. Buzzard, there was found weakness in the triceps, long flexors of the digits and interossei muscles, those which are

known to be supplied by the last roots of the cervical enlargement, that is to say, the seventh or eighth cervical and first dorsal. He also had contraction of the left pupil, owing to paralysis of the second dorsal nerve; and also there was a remarkable condition of the left disc, which, in the opinion of Mr. Gunn and Dr. Anderson, was nothing less than optic neuritis, being congestion and swelling.

From the infirmary he was removed to St. Bartholomew's Hospital, where he remained for some time. At the infirmary and St. Bartholomew's he had peculiar functional attacks; the abdominal muscles became powerfully contracted until, in fact, he only rested on the sacrum in bed, and there was a certain degree of loss of consciousness. Thus we had to deal with a man partly paralysed in the arms and completely so in the legs. On examination, we found not only the abdominal muscles rigid, but also remarkable rigidity of the muscles at the back of the neck involving the trapezius, and apparently the complexus. It was, therefore, impossible to detect any deformity of the spine; but on consultation with Dr. Buzzard, it was determined that he had, at the time of the fall, sustained some injury which was producing compression of the cord, and it was therefore decided to operate for its relief.

Now you see he has so greatly recovered power, that he can walk about, although of course feebly; he can move his arms and fingers, and altogether he is approaching the normal condition.

It will be seen from the foregoing that the diagnosis as to the seat of compression was easy, but even on exposing the laminæ of the seventh or cervical and first dorsal vertebræ, there was nothing to indicate mischief. On removing the laminæ, however, we found that unquestionably there must have been fracture of the spine, because the cord was kinked backwards and surrounded by pachymeningitis. On clearing this away we found the dura adherent to the cord beneath. Then we discovered on slitting up the theca what we could not make out from its exterior, viz., that a bony ridge was pressing backwards into the cord. Having removed the laminæ, I found that by pulling the head back in extension we could get rid of the ridge. So now we have put on a collar to support the chin to prevent drooping; and he is, as you see, rapidly recovering power.

The next is a case of paraplegia, due to caries at the level of the second dorsal vertebra, but also

extending far up the cervical region. When this child was admitted there was severe paraplegia, and there was commencing paralysis of respiration, the intercostals being unquestionably paralysed. There was remarkable curvature of a general character situated in the cervical and dorsal regions of the spine; and subsequently we found that not only did the abscess cavity project in this latter region, but actually went high up in front of the cervical spine. It was scraped and washed out in the usual way, and the child rapidly began to improve both as regards respiration and movement, not so rapidly as some cases have, but rapidly considering the enormous extent of the disease. Some six weeks after the operation, however, the improvement began to diminish; the paralysis of respiration reappeared; there was, in short, a severe relapse; there was, apparently, inability to move the recovered limbs, but it is uncertain whether the child felt ill and would not or could not. Her temperature rose, and obviously she was very ill. We examined her chest carefully, thinking that possibly this was a case of acute tuberculosis. It proved not to be so, however, but that the mischief was due to the re-collection of pus in the abscess cavity. This was carefully cleaned out and the flow was thoroughly re-established, and the child from then has been improving; she now has considerable power, and indeed will very shortly be able to walk. I consider that now the abscess cavity is practically healed (scar, spinal curvature, and position of the tube at the side of the cord were then indicated on the patient). As you see, the child can lift up her legs strongly, and it only requires a little practice with the go-cart to give her confidence in her strength. One great difficulty in these cases, even in the adult, is to restore confidence in them of their power to stand or walk.

This next child is almost an exact counterpart of the last as far as the wound is concerned; she has a sinus draining in almost exactly the same position. The special point of interest about this patient is that she is an instance of apparent failure. In March of last year I removed the laminæ of the first, second and third dorsal vertebræ, and found between the second and third dorsal roots a bulging sac which was opened, letting out a drachm of pus. The cavity which extended into the body of the vertebræ was scraped out and drained. But in April she was in exactly the same condition; this went on till July, and there

was still no improvement, in fact she could not move her legs. On July the 5th I again scraped it out, but there was no improvement. However on the 2nd of August, when Professor Hitzig was here, I once more scraped out the abscess cavity. After this, for a time, there still seemed to be no improvement, but then power gradually returned. So this, I think, is a good example of apparent failure, and though difficult to see how, may possibly be due to my not having done enough in the two first instances. At any rate in this case improvement did not set in till after the third cleaning of the abscess. There is still considerable weakness of the right leg, but she is steadily recovering power by degrees. She cannot raise the right leg more than about eight inches from the bed, and when she does so it is evident that she contracts the extensors of the knee well, but not the flexors of the hip.

This last patient is improving very slowly. He had an enormous bifid abscess which we have drained posteriorly. His improvement is so slow owing, I think, to the considerable amount of mischief caused by the abscess (*i.e.*, pachymeningitis), in fact he has still a great deal of the spastic condition. As Dr. Macewen has pointed out, it seems almost hopeless to treat these cases; but it is extraordinary how, after a thorough operation, a very severe state of affairs will ultimately diminish and disappear. He is recovering, you see, in the ordinary way; but I ask him to lift his leg and, although he has the power, he cannot do it before this audience. That reminds me of an interesting psychological fact: when these patients wish to show off and to do as much as possible, interference occurs, and there is no movement, nothing, in fact, comes of the intention on the part of the patient. This I have frequently observed, for the same patient will be able to move the limb when there is not particular reason for doing so, but if nervous and anxious to do his best will often fail wholly. Of course, after a time the movement is made at once on request. This man's temperature is normal; at first it remained high, and in the evenings he was somewhat hectic, but for some weeks past his temperature has been normal.

In conclusion I would press the advisability of early resort to operation. I have seen the most painful deaths occur in these cases unrelieved, when a timely operation would have saved their lives.

Careful watching of the effects obtained by extension is to be strongly insisted upon.

*A LECTURE

ON THE

TREATMENT OF HÆMORRHAGE DUE TO UTERINE FIBROIDS.

Delivered in connection with the London Post-Graduate Course.

By G. E. HERMAN, M.B., F.R.O.P.,

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President of the Obstetrical Society of London.

It is not possible to properly consider this subject without taking into consideration the natural history of Uterine Fibroids.

There are two varieties, the white hard fibroid and the red soft fibroid. The first, composed of concentric fibres, are multiple and encapsuled; the second are not composed of concentric fibres. A clinical fact which, if correct, is of importance with regard to the red soft class, has been pointed out by Mr. Lawson Tait, namely, that they go on growing after the menopause.

Fibroids are spoken of according to their site as sub-peritoneal, interstitial or sub-mucous. As only the two latter produce uterine hæmorrhage it is only with them we need concern ourselves. They grow to a certain size, and then cease to grow. Why they come, why they grow, or why they cease to grow, we do not know.

The first point to note is that taking all fibroids together, though they are common, yet great hæmorrhage due to their presence is comparatively rare. The hæmorrhage takes place from the hypertrophied mucous membrane of the uterus, and it bears no definite relation to the size of the tumour or of the uterine cavity. Although fibroids often delay the menopause, yet the hæmorrhage generally stops at that time if the tumour is of the hard variety.

They may be removed by one of three natural ways.

(1) *By absorption.* This is very rare. I have not seen one entirely absorbed, though I have seen several diminish in size. Many cases, described as instances of fibroids cured by absorption, are probably only cases in which the diagnosis was wrong. But some have been reported in which there can be no doubt. We do not know why absorption takes place, and we cannot foretell it.

(2) *By expulsion.* The sub-mucous tumour becomes pediculated, and is delivered into the uterine cavity; it produces by its presence uterine contractions which expel it first into the cervix, then into the vagina. The pedicle which has become elongated and weakened gives way, and the tumour is expelled from the vagina. Unfortunately, all this takes so long that the patient may die before the process of expulsion is ended. So we cannot wait for it to cure our patients.

(3) *By disintegration.* By this mode it is expelled in the form of loose fibrous debris, which feels to the touch very like the placenta. This is a clinical fact of importance to remember. Dr. Braithwaite, of Leeds, has called attention to it. I was once called in consultation to see a single woman, with a history of extreme hæmorrhage, enlarged uterus, and a mass presenting at the os, which the doctor, owing to the feel and to the associated symptoms and history, thought to be placenta. It was, however, a case of fibroid tumour undergoing natural cure by disintegration. We know nothing as to the causes producing this natural cure. It occurs sometimes after removal of the ovaries, but also without this being done. Such cases need great care, as the dead tissue may decompose and septic poisoning may occur from the growth of microbes in the decomposing material.

There are four modes of treatment—(1) By drugs, (2) by removal of the fibroids, (3) by artificial induction of the menopause, (4) by acting on the bleeding surface.

(1) *By drugs.* It is natural to commence treatment with drugs, owing to a desire on the part of both patient and doctor to avoid troublesome and dangerous treatment if more simple means offer success. Of the many drugs vaunted, I shall select only three—Ergot, Hamamelis and Hydrastis. Of these, Ergot is, in my opinion, the best, and it is the one on which I rely. My own experience has been that the hæmorrhage due to fibroids has been reduced by Ergot to an amount compatible with good health in three out of every four cases. I give it by the mouth, but some prefer to give it hypodermically. There is a disadvantage of the hypodermic method, that an inflamed nodule is produced at the point of injection. However, the mode of administration is not of such importance as persistence in the treatment. Give half a drachm of the liquid extract three times a day for from six months to

two or even three years. I have never seen any toxic symptoms, nor any bad effects from its prolonged administration. The worst that can happen is failure to cure, and that only occurs in one out of every four cases. Ergot acts on the smooth muscle fibres, and so produces contraction of the uterine muscle and the arteries. It does occasionally increase the hæmorrhage, probably by forcing the tumour towards the uterine cavity, and so producing a stretching of the blood vessels over it, which give way.

Hamamelis has given good results in some of my cases. I know of no evidence as to its mode of action. I give ℥x three times a day.

Hydrastis is said by many to be useful, but I have had no personal experience of its use, having found the other two, notably Ergot, sufficiently satisfactory.

As to the indication for the administration of Ergot, give it when the hæmorrhage is moderate, when the tumour does not protrude from the cervix, when the patient refuses, or circumstances prevent operative treatment.

(2) *By removing the tumour.* This is the best treatment, when it can be done, as we then get rid of the disease. The necessary procedure varies with the size and the site of the tumour.

When it projects into the vagina, it can be twisted off, or the pedicle may be cut through. If larger than an orange, it will not be possible to get past it to cut the pedicle, and the wire ecraseur is necessary. If still larger you may be unable to get the ecraseur over it. It may by pressure have worn off the epithelium, and then become adherent to the vagina. In such a case you will not be able to use the ecraseur. The tumour must be removed piecemeal by cutting it up with a knife or scissors. Some recommend that the cervix be divided so as to get at the stalk high up. Theoretically such advice seems good, but practically it is quite unnecessary, neither is it necessary to curette or cauterize the uterus.

When the tumour presents at the os uteri, if it is not larger than a foetal head, and presenting at the os, incise the cervix and give Ergot, so as to get it delivered into the vagina, when it can be treated as I described previously, or cut it up and remove it piecemeal.

When the tumour is in utero it is necessary to dilate the cervix and explore the uterus, as in other cases of uterine hæmorrhage. It is best to

dilate slowly by means of tents rather than rapidly by dilators, as the somewhat rigid tissues may tear. I prefer tents of laminaria to those of sponge, as, if the internal os dilates badly, the latter are apt to break in removal. No danger of septic trouble need be feared if proper precautions be taken. Before inserting the tent give a vaginal douche of a 1-2000 solution of Corrosive Sublimate, and soak the tent in a glycerine solution of Corrosive Sublimate 1-1000. Dilate until the finger can be introduced. If the tumour is small and pedunculated twist it off, but before doing so be sure that it is not too large to pass through the cervical canal in that stage of dilatation. If larger than a walnut, and the cervical canal not dilated, it is obvious that you cannot dilate the cervix sufficiently to permit the passage of it. Enucleation has been practised of late with success in cases which hitherto have not been thought suitable for it in this country. Prof. Péan states that tumours as large as a foetal head can be removed in this way. I can, from my own experience, state that a tumour as large as an orange, bulging into the uterine cavity, can be thus removed. If practicable, this treatment is extremely satisfactory, for it is a cure in the strict sense of the word. In this general outline of treatment I cannot describe all the details of this operation. I will only mention the essential points, which are—(1) The fullest possible dilatation of the cervix; (2) cutting the tumour up into little bits, and thus getting it away a bit at a time; (3) the utmost care as to antiseptis.

If the tumour is not projecting into the uterine cavity, so that it can be enucleated, and it is yet causing hæmorrhage great enough to weaken the patient, and drug treatment has no effect, the next treatment to be considered is:—

(3) *By removal of the ovaries and tubes so as to induce artificial menopause.* There is in proper cases little risk, and the results are surprising. The indications for this operation are that the uterus be not larger than the foetal head and that it is freely movable. If the tumour is very large it may have displaced the ovaries, so that it will be difficult to find and remove them. If parts around the uterus are adherent, the operation is extremely difficult. After the operation, the hæmorrhage ceases, the climacteric comes on, and the tumour shrinks in size. The vagina sometimes undergoes atrophy and contraction analogous to the senile atrophy of old age. Otherwise, with the

exception of the vasomotor changes which commonly accompany the climacteric, artificial or natural, there is nothing to trouble the patient.

It is important, if Mr. Lawson Tait's observations have not been of exceptional cases, to ascertain whether the tumour be of the hard or the soft variety, as, if of the soft variety, which Mr. Tait says continue to grow after the menopause, it is better to do hysterectomy.

(4) *By acting on the mucous membrane.* Two ways are advocated (1) by means of the constant Galvanic current, or (2) by curetting and the application of astringents. The first is known as Apostoli's treatment, from the name of the physician who introduced the mode of using it employed at present. It may be useful for the purpose of cauterizing the mucous membrane by means of the active chemicals set free when the electrode touches the mucous membrane; but it is difficult to be certain that you have acted on the whole or even the greater part of the mucous membrane.

It is said that it has an electrolytic action, by which it causes absorption of the tumour. I know of no satisfactory evidence of this. Cases have been published in which it has been supposed that the tumour has been absorbed. But they are very few in proportion to the number treated by electricity, and in most of them I think it probable that the diagnosis was wrong: that there was no fibroid. Absorption occasionally takes place without electricity. The cases in which the local cauterization effected by a strong electric current is beneficial, are very few. Electricity is said to have some special influence in stopping hæmorrhage from fibroids; but the accounts given by its advocates seem to me to show that if it has any influence at all, it is far inferior to Ergot.

The only cases in which I advise electricity are those in which the uterine cavity is so long, or so tortuous, or so high up, that it is not possible to use the curette or caustic to it; drugs have failed; and there are reasons against surgical treatment.

Curetting and the application of caustics or astringents are of use by destroying the bleeding endometrium, and thus stopping hæmorrhage till it has been reproduced. This treatment can be applied after the cervix has been dilated, but it is a question whether it is worth while, as the cure is not permanent. There may, however, be cases in which drugs fail, there are reasons for avoiding treatment involving any serious risk, and yet bleed-

ing must be stopped. In such cases the curette and caustic (either or both) may be used, with a prospect of temporary benefit. You may scrape the thickened endometrium away with the curette, and then apply either a solution of Perchloride of Iron (1-6), or Tr. Iodi, or Tr. Hamamelis. The latter, I must confess, I have not tried for the purpose, but its reputed good effects on hæmorrhage from other mucous membranes inclines me to do so.

CLINICAL NOTES.

(Specially reported for The Clinical Journal. Revised in each case by the Author.)

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WITH MR. MARMADUKE SHEILD IN THE OUT-PATIENT DEPARTMENT AT CHARING CROSS HOSPITAL.

Removal of a Pebble after it had been in the External Auditory Meatus of a child for ten years.

I removed this pebble, which you see is quite smooth, fairly round as to shape, and about the size of a marrow-fat pea, from the external auditory meatus of a patient, aged fourteen, this morning. It had been there for ten years, but beyond deafness it had produced no symptom. On first examining with a probe, I thought it to be an exostosis, but soon finding it movable, I concluded it was a hard foreign body, and on gently syringing the ear, out came this pebble. The patient had been seen by others who had also regarded it as an exostosis. The mother stated that the stone was inserted when the child was four years old. The case was seen by medical men, who asserted the stone did not exist.

The case serves as a useful illustration of what I always teach, namely, that when you are dealing with a child in whose external auditory meatus there is a hard foreign body, you should resort to no treatment beyond syringing, as, if it does not come out, you can see the child a few months or a year or so later and repeat the syringing. If you use force it might lead to a permanent injury. A hard foreign body in such a position is, I believe, always harmless when left alone, and this case is certainly a proof of that. As the child grows, the external auditory meatus becomes larger, and the day will surely come when the foreign body can

be removed by means of gentle syringing. The use of probes, scoops, hooks, and all rigid instruments, except the wire loop, had better be avoided, unless you have special experience.

A Case of Loose Cartilage in the Knee-joint.

This young man, 19 years of age, tells us that he met with an injury to the right knee when playing at football two years ago. The joint swelled, and became painful and stiff. With a view of using it as little as possible, he says that he always, when possible, threw his weight on the left leg. The left knee-joint then became swollen, and after the swelling had gone down he found it to be weaker than the injured knee. You can see that he is wearing a bandage over each joint, and he says that it is impossible for him to walk any distance without it, owing to the sense of weakness in the left knee. He further tells us that occasionally a "little hard ball" appears sometimes to the outer, sometimes to the inner side of the patella. I assume that this is a loose cartilage, evidently not attached by any stalk, as it appears sometimes on one, sometimes on the other side of the joint. I cannot feel it, nor demonstrate its presence by manipulating the joint; but with the history of a weak feeling in the knee, and the occasional appearance of a "hard ball," we are justified in assuming that it is a case of loose cartilage. There is no heat or redness of either joint; and only a slight, if any, increase of the synovial fluid. There is marked wasting of the muscles on the lower and outer side of the right thigh. I should attribute this to the tight bandaging he has indulged in for so long a time to support the knee-joint on this side. He thinks that on one occasion a similar hard ball appeared on the other knee-joint.

The question now arises as to what form of treatment is to be adopted. There are two methods: the palliative, in which some support is worn: and the operative, in which the loose cartilage is removed.

The first point to consider is the patient's convenience; the second, the absolute correctness of the diagnosis. If a source of inconvenience, if it prevents a man following his work, an operation should be performed. In this case the inconvenience is not excessive, as he can follow his employment, and moreover we have not felt the loose cartilage; I shall therefore adopt the pallia-

tive method for the present. He will wear suitable knee-caps for the next six months, and if at the end of that time the loose cartilage cannot be detected by me I shall not advise operation, but shall wait until it can be felt. The risks are but slight, but it is not advisable to submit a patient even to this until our diagnosis has been confirmed by feeling the loose cartilage, and until we are assured it interferes with his work.

The method by which I operate is as follows: having well washed the skin and taken all steps to perform the operation under strictly antiseptic precautions, the cartilage is fixed outside the joint by means of a needle, and then removed through a clean-cut incision. I prefer this to the subcutaneous method, as one permitting of better access. With antiseptic precautions the risk would be but slight.

A Case of Colles' Fracture.

This man came here five weeks ago with an impacted Colles' fracture. The accident producing it occurred three weeks previously, but as he thought he had only sprained his wrist he did not seek medical advice before. He presents the typical deformities of this fracture. He can already get some wrist movement, and will eventually have a fairly useful arm. He was treated in the way that we usually treat Colles' fractures here. A Carr's splint on the anterior surface, and an ordinary posterior splint on the posterior surface of the forearm and hand. These are bandaged on so as to leave the finger free, that enabling one to exercise the fingers and so move the tendons. The hand is put up in the position of adduction. These are the three main points to be remembered: (1) keep the fingers free, (2) see that the hand is adducted, and (3) produce good extension.

When there is impaction of the bones I always advise the patient to put up with the deformity rather than undergo the wrenching necessary to reduce it. My experience is that in all cases the patient gets as useful an arm, if the impaction is not interfered with.

Epithelioma of Tongue.

This old and emaciated man has an oval, raised painful sore on the tip and left side of the tongue. It has been slowly enlarging for nine months, and began as a crack. You observe that the rest of the tongue is marked by old scars, and there are some whitish thickened patches of epithelioma here and

there. Feel the ulcer gently, and note the hardness of its edges. The man has apparently no glandular implication. He has been an inveterate and excessive smoker of clay pipes and the strongest tobacco. The scars are suggestive of old syphilis. Now epithelioma seldom occurs in a healthy tongue, but is usually excited into growth by the rubbing of a bad tooth, the irritation of a clay pipe, the long continuance of syphilitic sores, especially if improperly treated by caustics. This is typically the sort of sore not to treat with caustics, which only increase the evil. Always remember never to rub caustics on an indurated sore on the tongue, especially in an aged man. Local varieties of epithelioma of the tongue if taken early, before the glands are affected, are fairly favourable. In this case, had I the opportunity of treating it further, I should freely remove the whole organ, and not wait to inquire for microscopical details. The engrafting of cancer in old syphilitic sores is common. Finally, if it were not for syphilis, rough teeth, and smoking, epithelioma of the tongue would be a very rare disease.

A Case of Varicose Veins.

This young man has a sausage-shaped cluster of veins in the right popliteal space—a somewhat unusual site. He has come here for operation as he wants to join the army. Of the two operations generally advised now, I prefer the complete excision of the veins. The risk of pulmonary embolism, which is perhaps the greatest risk attendant on either this or Lee's operation is about equal in both. I regard any operation for varicose veins as one of expediency rather than one of necessity, and always explain this to the patient. At the same time the risk is so small that I should never hesitate to operate.

With reference to pulmonary embolism, I believe that the risk of this can be reduced to practically nil, if the patient is kept absolutely at rest until all danger of the clot moving is over. One keeps them at rest to avoid this detachment of clot; but as any straining will equally bring this about I regard it as important to avoid any approach to constipation, as embolism is sometimes induced by straining at stool. I know of one case operated on for varicocele where a fatal end occurred as the result of pulmonary embolism, due to this cause. I therefore give these cases copious oil enemata to prevent all straining when the bowels first act.

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WEDNESDAY, MARCH 22, 1893.

A CLINICAL LECTURE

ON

A CASE OF CIRRHOSIS OF THE LIVER WITH HIGH FEVER.

Delivered at St. Thomas's Hospital, March 6th, 1893,

BY

SEYMOUR J. SHARKEY,

M.D. Oxon., F.R.C.P.,

Physician to the Hospital.

GENTLEMEN,—I have selected as the subject for my lecture to-day a case which excited considerable interest whilst the patient was in the wards under my care, owing to certain symptoms which were associated with the principal disease. I allude to the case of Cirrhosis of the Liver, accompanied by a remarkably high temperature.

I will, first of all, recall to your minds the important points in the patient's history, and afterwards discuss the special features of his case.

H.B., æt. 18, labourer, was admitted into the hospital on February 6th, 1893, complaining of abdominal pain, which was increased by any movement. His abdomen was distended in the upper half, measuring $33\frac{1}{2}$ inches above, and $30\frac{1}{2}$ inches below the umbilicus. The liver dulness extended from the fifth intercostal space in the right nipple line to a point below the level of the umbilicus, and transversely from the right to the left hypochondriac region. The lower edge of the organ, somewhat rounded and hard, could be traced across the abdomen, the right lobe extending somewhat lower than the left. The surface was tender to pressure, and pain was produced on deep inspiration. The spleen could not be made out. Posteriorly the liver rose so high that the bases of the lungs were pushed upwards. There was no fluid in the abdomen. The heart was natural. Respiration = 34. Pulse = 124. T. = 102° . Tongue thickly coated with a white fur, but moist. There was very slight jaundice. The urine was high-coloured; Sp. gr. 1032, acid in reaction; containing albumin $\frac{1}{4}$, and bile pigment.

His family history was good. He had pleurisy five years ago, but had suffered from no other illness. He had been a hard drinker for the last

six months, taking daily from eight to nine pints of beer, and one glass of whiskey. Previous to this time he had been a teetotaller for two years, and before then had been a very moderate drinker. He stated that for two years before admission his abdomen had been large, but that it had caused him no inconvenience, except that he was obliged to be measured for his trousers. He dated his illness from February 3rd, 1893. He went to bed the previous night quite well, but on rising that morning found he could hardly stand as his head was "whirling." He had not been drinking overnight. He went to work but returned at 9 a.m., feeling very ill, and soon after was seized with severe abdominal pain. This increased during the day, so he took pills in the evening which produced diarrhoea, lasting until the morning of the 5th. He eat some supper that night, but vomited quickly afterwards. During the last day or two before admission his abdomen had become more swollen, and he had been sleepless owing to pain.

On admission an ice-bag was applied to the abdomen, one grain of Opium was given in the form of a pill, and an efferverscing Citrate of Potash draught, containing two grains of Quinine, was ordered to be taken three times a day. Diet: milk and soda water and beef tea.

On February 6th, 7th, 8th, the temperature reached 102° , but he was much better in every way. On the 9th it had fallen to normal; the pain and tenderness had almost disappeared, he was reported to have passed a good night, and he was clamorous for food. P. = 84, and respirations easy. The albumin and bile pigment had disappeared from the urine, and the yellow tinge from the conjunctiva.

From February 8th to February 12th the temperature was normal, the liver dulness and abdominal distension diminished, and the patient felt quite well.

On February 11th he was allowed some bread and butter, milk pudding, and two eggs.

On the morning of February 13th his temperature again began to rise and by the morning of the 14th reached 104° . He was therefore again put on fluid diet.

During the next four days the temperature remained high, though gradually descending, and

it again reached the normal on February 18th. His pain returned, and he had much diarrhoea, the maximum number of actions in the day being seven.

By the 20th he was again feeling well and hungry, but weak, and as the fever had disappeared for two days he was again put on bread and butter and two eggs. The temperature at once rose, and by the morning of the 22nd it reached 103.8°. Although fluid diet was again resorted to, the temperature continued between 102.6° and 104.4° for the next two days, but on the 24th again reached the normal. Diarrhoea likewise returned, and he had as many as eight actions in the twenty-four hours in spite of his taking four grains of Opium. An enema of Starch and Opium controlled it.

On the 25th the patient again felt comfortable, and was reported to have passed a fairly good night. During one part of the day the temperature was normal, but it rose again at night and reached 102°. Profuse and uncontrollable diarrhoea set in again, and continued till his death from exhaustion on March 1st, the temperature rising each day to between 102° and 103°.

After the first few days the urine contained no albumin.

The urea was quantitatively estimated with Apjohn's apparatus on many occasions, and the results were so remarkable that I tested the apparatus with a known solution of urea. The result was that it gave 9.9 grains where it should have given 10 grains—a very fair degree of accuracy. Quite as high figures were given during the afebrile periods of the disease as during the febrile. The following is the record drawn up by my clinical clerk Mr. Goodhue, who deserves great credit for his careful observations on this case.

In the following table the quantities of urine stand opposite the date which terminated the twenty-four hours in each instance.

| Date. | Urine in Oz. | Urea in Grains. |
|--------------|--------------|-----------------|
| February 9th | ... 44 | ... 735 |
| " 11th | ... 45 | ... 990 |
| " 13th | ... 72 | ... 1096 |
| " 14th | ... 36 | ... 534 |
| " 16th | ... 37 | ... 740 |
| " 17th | ... 56 | ... 1008 |
| " 18th | ... 57 | ... 1111 |
| " 20th | ... 42 | ... 777 |
| " 21st | ... 45 | ... 758 |

| Date. | Urine in Oz. | Urea in Grains. |
|---------------|--------------|-----------------|
| February 24th | ... 42 | ... 441 |
| " 25th | ... 62 | ... 1147 |
| " 27th | ... 39 | ... 721 |
| " 28th | ... 38 | ... 741 |
| March 1st * | ... 10 | ... 145 |

At the autopsy the liver was found to be greatly increased in size. It weighed 10 lb. 5 oz. It was fairly smooth on the surface, but the capsule was somewhat thickened and opaque. On section the organ was mottled brown and white, and it was very tough. Each lobule was surrounded by a thickened ring of connective tissue, so that, although there has not yet been time to make a microscopical examination, the case may safely be pronounced to be one of monolobular cirrhosis. There was slight recent perihepatitis, but no general peritonitis and no fluid in the abdomen. The gall-bladder was large and full of perfectly colourless thin fluid; its duct was in no way obstructed. The spleen was normal. The lymphatic glands in the region of the liver were large, pale, and œdematous. There was no thrombosis in the portal vein or in its branches, and the rest of the organs presented nothing unusual.

Such is the history of this case. When I first saw him, finding the liver to be both enlarged and hard, and recalling the history of alcoholism, I considered that we had to deal with a case of hepatic cirrhosis. This, however, did not account for the pain, or for the peculiar course followed by the temperature. I told you when we first saw the patient together, that in cases of hepatic cirrhosis, accompanied by fever, there were certain conditions to be borne in mind as likely to be the causes of the high temperature. They were:

- (1) Perihepatitis and peritonitis.
- (2) Suppurative Pylephlebitis.
- (3) Hepatic intermittent fever produced by
 - (a) Simple obstruction of the bile ducts, and
 - (b) Obstruction with suppuration in the bile ducts.
- (4) Fever which occasionally accompanies cirrhosis pure and simple.

Had the cause been suppurative pylephlebitis, the course of the temperature would have been similar to that of pyæmia, for pylephlebitis produces, so to say, portal pyæmia. There would also have been rigors and sweats.

Had it been hepatic intermittent fever we should

* Date of death.

have had the deep jaundice which usually accompanies obstruction of the bile duct, whereas in this patient there was only the slight jaundice due to cirrhosis. The temperature, too, would have presented the sudden and frequent fluctuations seen in suppuration.

Finally, the fever occasionally accompanying uncomplicated hepatic cirrhosis does not usually exceed 101° or 102° .

These, then, were the points passing through my mind at first. Three days after his admission, as the temperature was normal and the pain had disappeared, and as the boy was hungry and feeling well, I diagnosed the case as one of cirrhosis with perihepatitis.

A few days later one had, on the recurrence of the symptoms, to reconsider the question as to whether there was inflammation and suppuration of the portal vein, or obstruction of the bile ducts. The fever was in excess of that which usually accompanies perihepatitis, yet there were wanting certain other symptoms, the presence of which might be expected in either of the other conditions. Was there simple thrombosis of the portal vein? This view was suggested to me by the diarrhoea, for though this is a common accompaniment of cirrhosis, yet, as a rule, it is not so severe as in this case. I did not think the thrombosis was of the main vein, as that would have caused more pronounced symptoms. I had then to content myself with the diagnosis of cirrhosis, and some complication which I could not fathom. At the autopsy the existence of cirrhosis and perihepatitis was demonstrated, but nothing to account for the pyrexia. We can, at any rate, learn this from the case, that cirrhosis may be accompanied by a high temperature.

The excessive quantity of urea passed is of importance and interest, but it is in direct opposition to the experience of other observers, for as a rule the amount of urea has been found to be diminished in hepatic cirrhosis. This is certainly my own experience of the few cases in which I have estimated it. Charcot and those who have worked with him on this subject, state that in hepatic intermittent fever the urea is diminished, whereas in malarial intermittent fever it is increased.

As to cirrhosis itself, it is a condition often associated with atrophy, but in this case the liver was considerably enlarged. It is, however, generally recognised that there are two varieties of hepatic cirrhosis.

In one form, the atrophic, the liver is small. Microscopically one finds that there is an increase of connective tissue, which does not surround each individual lobule, but groups of several lobules; hence the name applied to it, multilobular cirrhosis.

In the other form, the hypertrophic, such as that found in this man, the liver becomes large. In this variety the connective tissue passes around each individual lobule, and thus, being more evenly distributed than in the other form, the surface of the liver is smooth, in contrast to the irregular hob-nailed surface of atrophic cirrhosis.

Where alcohol in less potent form, such as beer, is taken, it may be that the larger vessels are not affected, but only the smaller and more delicate ones, and so we get the hypertrophic form. This man told us he was a beer and not a spirit drinker.

There is a third form of hepatic cirrhosis recognised by some authorities, but not by others: it is called biliary cirrhosis. In it the changes start not from the blood vessels but from the small bile ducts. The actual cause is not well understood. Some writers have experimentally ligatured the bile duct in animals, and found that it produced cirrhosis. There is no evidence to show that in human beings the same occurs from prolonged obstruction of the duct; indeed, I have myself shown that it does not. Still, however caused, I recognise biliary cirrhosis as distinct, not only anatomically, but clinically. Thus, the liver is large and smooth, the disease has a long duration (seven or eight years), it is not accompanied by ascites, and it is associated with deep permanent jaundice. Anatomically it resembles the hypertrophic form of cirrhosis, inasmuch as it is monolobular, but there is an increase of the small bile ducts out of all proportion to that which takes place in portal cirrhosis.

To return to our case. Is it reasonable to suppose that beer drinking to excess for a period of only six months could have produced such advanced disease? I hardly think so. We have, however, to recollect two points, first that the word of an alcoholic is not always to be accepted, secondly, that he stated his abdomen had been large for some time. It may be that the alcoholism was only the final factor in this case. There was no historical or anatomical evidence of syphilis. There was no history of chronic malaria, and nothing to suggest tuberculosis as a cause. There was no history of any of the specific diseases of childhood, such as scarlet fever, which are

supposed to occasionally give rise to cirrhosis. We are, therefore, left in doubt as to whether his statement as to his habits was incorrect, or whether, accepting it as correct, there may have been present already some cirrhosis due to an unknown cause, the course of which was accelerated by too free indulgence in alcoholic drinks.

Postscript.—Since this lecture was delivered a microscopic examination of the liver has been made, and has confirmed the conclusions which were drawn from the naked-eye examination.

A CLINICAL LECTURE

ON

A Case of Injury to the Arm by a Machine, and on some points concerning the Treatment of Rodent Ulcer, and of Tumours of the Eyeball.

Delivered at the Middlesex Hospital,

By GEORGE LAWSON, F.R.C.S.,

Surgeon to the Hospital, Consulting Surgeon to the Royal Ophthalmic Hospital, Moorfields.

GENTLEMEN,—I propose to draw your attention this afternoon to some points suggested by a few of the patients we have seen together during the last fortnight.

A Case of Injury to the Arm by a Machine.

A young lad was admitted here a few days ago with an injury to the arm, the result of a machine accident. His duty was to insert pasteboard sheets into a machine so that they passed between two rollers. Whilst at work one day a finger was caught, and then the hand, forearm, and lower arm were drawn in between these rollers. The skin was cut through just above the elbow, being almost as clean cut as by a knife, the skin retracted back to the wrist, at the same time becoming inverted in a manner suggestive of the finger of a glove turned inside out.

We have in our museum the hand of a boy (specimen shown), who met with a similar accident when feeding a similar machine. The result was not so extensive, as the machine was stopped in time; but the peculiar inverted retracted position

of the skin is the same as you can see in both cases. In the first case, where only the hand had been involved, I amputated immediately, as the operation, involving only the loss of a hand, was not comparatively so serious. In the second case, which you all saw with me, as the injury involved parts to just above the elbow joint, I felt that I ought to give him a chance of preserving the limb. I accordingly, when he was anæsthetised, having rendered the parts aseptic, reversed the skin, put it in its natural position, stitched its upper limit to the lower limit of the uninjured skin of the arm, and covered the whole limb with cotton wool. I saw him twenty-four hours later, and finding the skin to be anæsthetic with patches of commencing gangrene, thought it advisable to amputate the arm through the uninjured parts a little way above the elbow. I was not sorry to have so proper a reason for amputation, as with the extensive injury to the nerves, I felt that tetanus might possibly occur as a result. The amputation was performed with a circular incision through the muscles and skin flaps. Those who saw me perform the operation might have noticed one or two points about the details of it. In amputation of the arm I have found that the main nerves of the limb remain long, owing to the retraction of the muscles, and as a consequence their ends are apt to become bulbous or form adhesions with the skin. Both these sequelæ are sources of distress to the patient, and must be avoided. I accordingly, by means of forceps, pulled out the median, the ulnar, and the musculo-spiral nerves from the stump as far as possible, and then cut them off short, close to the muscles.

Another point you may have noticed was that I treated the brachial artery by torsion. I believe that torsion is in every way superior to the catgut ligature. Since I adopted this method I have not had one case of secondary hæmorrhage. My objection to the catgut ligature is the difficulty in knowing when it will dissolve, a further objection being that the artery is very apt to slip from it. I do not say that either objection is the rule, but seeing that there is no risk of secondary hæmorrhage after torsion, I naturally prefer so sure a method.

Rodent Ulcer.

Four days ago most of you here saw me operate on a case of rodent ulcer which had extended

from the inner side of the nose into the orbit. The patient had been operated on twice elsewhere and four times here, but the ulcer had been only scraped and burnt so far as it could be got at on the face. The extension into the orbit could only be got at by removing the eye, and for a long time the patient objected to this being done. The pain and distress have been so great of late that she made up her mind the loss of the eye would be more than balanced by the freedom from pain and distress she would obtain by the complete removal of the diseased parts. Accordingly, four days ago I removed, under an anæsthetic, the eyeball and growth, and having dried the orbit applied a solution of Zinc Chloride to the orbit.

I am glad to have the opportunity of calling your attention to this case, as the Middlesex Hospital has for years been renowned for its successful treatment of this disease. Rodent ulcer, or as it was called by the late Mr. Moore, rodent cancer is allied to, but distinct from epithelioma. It occurs on the face, especially on the cheek, and on the side of the nose. It presents small acicular granulations, which break down and ulcerate. There is little or no discharge, no odour, and no enlargement of lymphatic glands. Epithelioma on the other hand presents large granulations; it has an offensive discharge, and there is an early enlargement of the lymphatics.

The treatment which has been carried out here now for so many years with such success is the application of Chloride of Zinc in the form of a paste. It is only recently that the method by which this paste is prepared has been published in our Hospital Pharmacopœia. Its mode of preparation has been loosely described, as a rule, in ordinary text books, with the result that surgeons who have used a paste prepared according to the prevalent vague descriptions have not found it answer very satisfactorily.

This paste is prepared by first making the *Liquor Zinci Chloridi cum Opio, and then

* Liquor Zinci Chloridi cum Opio.

| | | | | | |
|---|---------------------|-----|-----|-----|-------|
| R | Zinci Chloridi | ... | ... | ... | 5xvi |
| | Pulveris opii | ... | ... | ... | 5iiss |
| | Acidi Hydrochlorici | ... | ... | ... | f 3vj |
| | Aquam bullientem | ... | ... | ad | Oj. |

Macerate the Opium in twelve ounces of the boiling water for twelve hours, add the acid, and filter, then dissolve the Chloride of Zinc in the filtered liquid, and make up to twenty ounces with distilled water.

(*Middlesex Hospital Pharmacopœia.*)

adding Flour to render it of a proper consistence as follows:—

R. Liquoris Zinci Chloridi cum Opio... f 3j

Farinæ Triticæ gr.cxx

Mix smoothly in a mortar and heat over a water-bath until of a proper consistence.

Before applying it you must make sure that all hæmorrhage has stopped, and that the parts are dry. The paste is then spread on pieces of lint about $\frac{1}{4}$ inch square, and these pieces of lint having been applied to the part, it is covered with cotton wool, and the whole dressing left on to come away with the slough. I show you an orbit which exfoliated in its entirety from a case of rodent ulcer as the result of this treatment. You may think this an isolated case, but I shall show you just such another in which the orbit similarly exfoliated. There is only this difference, that the one I show you was from a case of rodent ulcer affecting the orbit, and the one I shall show you later on was from a case of sarcoma affecting the orbit.

You may ask if there is any danger from so extensive an exfoliation taking place as a result of this treatment so near the coverings of the brain. I cannot deny that theoretically there is danger, but practical experience shows the danger to be but slight. The worst trouble I have seen is the occurrence of epileptiform convulsions, but the patients have invariably recovered. I remember being sent for to a case of Mr. de Morgan's when he had made use of this method for sarcoma of the orbit; the patient had been seized by these epileptiform convulsions; I removed the lint and well washed out the orbit, and the patient made an uninterrupted recovery.

The treatment is also of great use in sarcoma of the orbit, as I shall show you.

Tumours of the Interior of the Eye.

With the exception of cysts, the two common tumours which occur in the eyeball are glioma and sarcoma. I prefer the name glioma-sarcoma. The growth consists of a granular matrix containing spiral, circular or spheroidal cells. The greater the preponderance of the circular cells, the greater the malignancy of the growth.

Glioma.

Glioma attacks children; beginning in early life sometimes even in intra-uterine life. It springs from the connective tissue of the retina, and undergoes, finally, soft or cheesy degeneration. I have

never known it to commence after 5 years of age. It may occur in one or in both eyes. If in one eye only, when that eye has been removed, it will most probably recur in the other, and after removal of the second eye it may recur in the brain and kill the patient. As a rule it does not occur in the internal organs, but I know of one case where the growth was found in both spleen and liver after death.

From the sketch I have given, you will understand that treatment in glioma is not as a rule successful; so well is this recognised that when treatment is successful the question arises as to whether the case was really one of glioma or of pseudo-glioma.

I show you this specimen from the museum, as illustrative of the course of the disease. This little creature had first one eye removed, then the other; the disease recurred in the orbit and brain, and you can see this mass springing from the orbit which covers all that side of the face, and extends backwards into the skull.

You may ask why any operation is done, if the eventual course is in no way stayed, and the patient is doomed to a certain death. Well, it relieves the pain, and one hopes that each case is to be the exception as to the fatal rule. In my own experience, it is true, that the bulk of cases have died, but the operation has always given comfort.

Occasionally one meets with a successful case. I removed one eye from a child 5 months old, and the other eye when it was 2 years 7 months old; both eyes at the time of removal were full of the growth, and at the time of removal of the second eye, the child was absolutely blind. In answer to the parents' inquiries I gave a gloomy prognosis, fearing a recurrence in the brain. Last year the child was alive,—it was 10 years of age—and I was told by his father, that he was a child of considerable intellectual promise. He was being educated at a school for the blind, could play the piano well, and was in the sixth Book of Euclid. So you see that there is a chance, if only a slight one, of the operation being successful.

Sarcoma of Orbit.

There are two forms of sarcoma which affect the interior of the eyeball, the black (melanotic sarcoma) and the white. Structurally they are both the same, the only difference being that one is, and the other is not pigmented. In one case I noticed that whilst the sarcoma was intra-ocular,

it was black, but when it had burst through the tunics of the eyeball, the part growing external was white. The melanotic are the most common, and usually grow from the connective tissue of the choroid; they grow until they fill the eyeball, and then burst through the tunics to invade the orbit.

The eyeball should be removed so soon as the case is diagnosed. They usually recur, but if the eye is removed before the growth has invaded the orbit the patient may have a chance of dying from some other cause. I purposely express myself in this manner as I want to impress on you that if the patient only lives long enough the growth is almost certain to recur. If the growth has already invaded the orbit the prognosis is not so good.

As an illustration of an extensive recurrence of melanotic sarcoma, not only in the locality first affected, look at these specimens. The patient came to me originally at Moorfields with melanotic sarcoma of one eye; this was removed. She came here later with a recurrence in the orbit and died here. These specimens show you the way in which the brain, heart, liver, kidneys, and spleen were infiltrated by masses of this growth.

It is correct treatment, however, in spite of the chance of recurrence, to remove the eye. Should the orbit be affected then the Chloride of Zinc paste is again of use. So soon as the hæmorrhage has stopped and the tissues are dry, apply the paste in the way I have explained.

This orbit was removed twenty years ago from a woman who came here with sarcoma of the orbit. I removed the eye, and then pasted round the whole of the orbit in the way I have already described; the whole bone exfoliated *en masse*, and the patient lived until last year.

It is important, therefore, to remember that even in these apparently hopeless cases, one does meet with successful results, especially when all traces of the growth are got rid of by a strong escharotic, such as our Chloride of Zinc paste.

These are by no means the only varieties of conditions in which this paste is of use. I use it in a number of conditions in which a powerful escharotic is indicated. Without enumerating them I will call your attention to one practical point; when you desire only a superficial action, spread the paste on a material like muslin; when you want a deeper action, spread it on lint. The lint takes up a greater quantity of the paste than does a material like muslin, the resultant action consequently is greater when the former is used.

A CLINICAL LECTURE

ON

A CASE OF PORRO'S OPERATION.

Delivered before the Students of the Yorkshire College,
February, 1893,

By **A. W. MAYO ROBSON, F.R.C.S.,**

Professor of Surgery in the Victoria University, and
Hon. Surgeon to the General Infirmary at Leeds.

GENTLEMEN,—It is not often the privilege of the surgeon to be able by means of one operation to save two lives that, being left to nature, would inevitably be sacrificed. The following case, the notes of which have been furnished by my house surgeon, Mr. Whitehead, affords an example, and in relating it I take the opportunity of making some remarks on the surgical methods which may be employed for effecting delivery when the ordinary efforts of the obstetrician are no longer of avail.

A patient, *æt.* 40, sent by Mr. Spong, was admitted to the Leeds Infirmary on November 18th, 1892, under my care. She stated that she had always enjoyed excellent health, and that menstruation had always been normal and regular except during her pregnancies and her lactation periods. She had been pregnant six times. The first child was born dead at term, the second is living and healthy, and at the third pregnancy she aborted at the fifth month. In January, 1891, she was delivered of her fourth child at full term, when a tumour was discovered connected with the uterus and partially blocking the pelvis, so that delivery was effected with difficulty and the child was born dead. In March I first saw her with Mr. Spong, and advised removal of the appendages. Menstruation commenced again at Whitsuntide, and at the same date she became an in-patient at the infirmary, but feeling so well that she declined operation. She again became pregnant, but miscarried about Christmas, 1891, at the third month. Soon after this she again became pregnant, and, except for some slight feeling of extra weight in the pelvis during the last two months, there had been absolutely no symptoms whatever of anything pathological, and she did not acquaint Mr. Spong with her condition until she had nearly reached the full term. I was then again consulted, and finding the pelvis completely filled by a fibro-myoma, advised her removal to the infirmary with a view of performing Porro's operation.

On admission she was obviously pregnant and near the full term, she herself expecting the confinement in a few days. The head of the child could be felt more distinctly than usual, directed downwards, the back towards the mother's left. The placental site was evidently not at the front. On vaginal examination a large hard mass could be felt in the posterior segment of the uterus and blocking the pelvis almost completely, the os being felt as a slit high up behind the pubes.

On November 19th, at 9.30 a.m., the abdomen having been asepticated and the patient anæsthetised with the A.C.E. mixture, I made a median incision of about five inches in length through the abdominal wall from a point one inch above the umbilicus to within an inch of the pubes. An elastic ligature was passed over the top of the uterus so as to act as a tourniquet if hæmorrhage should prove troublesome, but this was not drawn tight until the child had been extracted. A vertical incision was then made in the anterior wall, exposing the membranes, hæmorrhage being slight and well controlled by pressure. The edges of this uterine opening having been well drawn forward to prevent escape of fluid into the peritoneal cavity, the membranes were opened and the liquor amnii drained off; the breech presented, and the child was extracted. It commenced to cry at once, and the cord was severed. The tourniquet was then tightened, and the uterus with the placenta *in situ* was drawn forward through the wound, the broad ligaments were ligatured and the appendages removed. As the tumour was firmly impacted in the pelvis, from which it could not be extracted, the wire of a Koeberlé's *serre-nœud* was passed round the uterus as low as possible, a small portion of the tumour, which was clearly a fibro-myoma, being included in the stump. A long pin was then passed through the stump and the uterus cut away. The peritoneum was closed by a continuous catgut suture and closely applied round the stump. The muscles and aponeurosis were drawn together by a continuous suture, and the skin by several interrupted silkworm sutures. The dressing adopted throughout consisted of dry Boracic Acid powder, dry double Cyanide gauze, and salufer wool. At 6.50 p.m. the same day there was a sudden very copious hæmorrhage from the stump and from the vagina, a considerable quantity of blood being lost before it was stopped by tightening the clamp and packing the vagina

The notes then recorded as follows:—

Nov. 20th.—The patient is weak, but she is gaining strength.

21st.—The packing was removed from the vagina; there was some oozing; the packing was re-applied.

27th.—The clamp came away to-day, the wire having evidently broken some days previously.

28th.—The stitches were removed; the upper part of the wound had healed.

The rest of the patient's stay in the hospital was unmarked by a single bad symptom, the wound running a dry aseptic course, and the temperature being normal throughout. She commenced to suckle her child within a few days of the operation, and was discharged on December 22nd in good health and able to walk a considerable distance; the wound was healed, and appeared quite sound. She was seen again on January 14th, and was performing light household work without any discomfort. The child was thriving and in perfect health, having been chiefly nourished by the mother's milk from an early period.

Where from any cause delivery cannot take place "per vias naturales," or even where delivery can only be effected through the vagina by killing the child, there are no less than six operations which may be performed in order to save both the mother and her infant. These are:—

- (1) Symphysiotomy.
- (2) Ischio-pubiotomy.
- (3) Complete Hysterectomy.
- (4) Laparo-elytotomy.
- (5) Cæsarean section, and
- (6) Porro's operation.

Symphysiotomy, or the artificial division of the symphysis pubis during labour, with the object of increasing the pelvic diameters, is a method lately revived with satisfactory results. Like ovariectomy, it was formerly practised under septic conditions, and allowed to fall into disuse; but as revived under the auspices of modern surgery, its warrant is the almost uniform success attending its performance.

To Morisani in Naples and Pinard in Paris belong the chief credit of re-establishing this operation among recognised surgical measures during labour.

Symphysiotomy was suggested by Pineau in 1598, but first performed on a living subject successfully by Sigault in 1777. From 1777 to 1858 it was performed eighty-five times with a mortality

of 33 per cent. It died out in 1858, and was revived in Italy in 1866.

From January 1st, 1886, there have been at least fifty-two operations, with only one death, due to septic infection before the operation began.

It is applicable in contracted pelvis with a conjugate of more than 67 millimetres, and hence replaces Cæsarean section in the greater number of cases, as a greater contraction is rare.

The space given is much more than was formerly thought possible. The pubic bones gape 7 centimetres ($2\frac{3}{4}$ inches), and the conjugate is increased by 1.3 to 1.5 centimetres.

The best test is, however, the practical one, and this has been satisfactorily applied, as Leopold, Porák, Freund, Jewett, Harris, Smyly, Pinard, Velitz, and Zweifel have operated successfully. The opinion given by these authors is unanimous regarding the value of symphysiotomy as largely displacing craniotomy, induction of premature labour for narrowed pelvis, and Cæsarean section. Leopold declares that "symphysiotomy ought, in cases where forceps and version are not applicable, to replace both perforation of the living child and Cæsarean section, as operative procedures, under proper conditions." And Zweifel similarly states that "the course of the operation and the recovery have made an unexpectedly favourable impression on me."

The details of the operation are similar in all the recorded cases. The skin incision is made 1 cm. above the symphysis, and extends downward to within 1 cm. of the clitoris. Vessels are seized with forceps and ligatured as usual. The attachments of the recti are next notched on each side of the symphysis, and a way made for the forefinger to be inserted over and behind the pubic joint quite to its lower edge. A metal catheter is now inserted into the urethra and kept pressed backwards. Under the protection of the finger a blunt-pointed curved bistoury is now made to divide the symphysis in a direction from above downward. The hands of the assistants support the trochanters and sacro-iliac joints, the pelvic bones are separated, and the wound stuffed with Iodoform gauze to temporarily arrest the bleeding. Forceps are now applied and the child delivered.

The placenta is next in due time expelled, and the ends of the symphysis apposed. They are retained in position by three or four silver or silk-worm gut sutures; any bleeding not easily stayed is met by ligation with needle and catgut, and the

wound is then closed in the usual manner. A girdle bandage is finally applied round the hips of plaster of Paris, Silicate, or Esmarch's india-rubber bandage. This is retained for about three weeks, at the expiration of which time it may be safely removed. During this time the patient's knees must be kept together, but there is no necessity for a permanent dorsal decubitus.

The relative ease and the absolute efficiency of this operation, its freedom from the risks of Cæsarean section, and its immense superiority over perforation, bespeak for it a brilliant and useful future.

Symphysiotomy would, however, not have been applicable to the case I have related.

Complete hysterectomy during pregnancy would never be resorted to except for the extirpation of a cancerous uterus, for which the operation was successfully performed by Sir Spencer Wells in 1881.

Laparo-elytotomy, which consists in removing a foetus through an incision in the abdominal wall in the right inguinal region, through which the vagina is reached and incised without opening the peritoneum or wounding the uterus, should be known as Thomas's operation, as, although it was attempted by Ritgen in 1821, and discussed by Sir Charles Bell in 1837, it was revived, practised, and proved feasible by Thomas of New York in 1870. The operation would, however, have been unjustifiable for the case I have related, as the tumour involved the lower segment of the uterus, and the only operations, therefore, available for saving the lives of the mother and child were Porro's and the Cæsarean section.

Cæsarean section is a very old operation, which was first placed on a scientific basis by Roussetus in 1581, since which time many works have been written on the subject. Until comparatively recently the mortality was very great, and it is only since the adoption of antiseptic surgery and improvements in the details of the operation, especially the new methods of suturing the uterine incision, introduced by Sanger, and first carried out by Leopold, that Cæsarean section has been placed on a safe basis.

Cæsarean section was, however, also out of the question in this case, as the tumour so completely blocked the outlet of the pelvis that drainage of the uterine cavity could not have been effected, and, moreover, Cæsarean section is a much longer operation than Porro's, on account of the numerous sutures which have to be inserted.

You will see, therefore, that the only method left for me to adopt was to perform utero-ovarian amputation as a sequence of the Cæsarean section, and this is what is known as Porro's operation.

It was first deliberately performed by Porro in 1876, although it had been previously carried out successfully on animals in 1768 by Carollini, and in 1828 by Blundell.

I have described my case as a Porro's operation, although it is really a modification of it, as I had to amputate the uterus above the level of the tumour, which could not be lifted out of the pelvis, whereas in a true Porro the amputation is performed at the cervical junction.

Mr. Alban Doran, in his work "Gynæcological Operations," p. 385, says: "Removal of a pregnant fibroid uterus is a very difficult and dangerous operation," and later he states, "the alterations in the cervix interfere with the firm application of the serre-nœud wire and intra-peritoneal treatment of the pedicle will be yet more hazardous."

I cannot see why such an operation as the one I have described should be any more difficult or dangerous than an ordinary abdominal hysterectomy, as the technique of the operation is practically the same, and usually the patient will be in a better state of health than one who has to submit to hysterectomy for myoma. It is well known that patients suffering from myoma only submit to hysterectomy when they have been seriously affected by violent hæmorrhages or other important symptoms, whereas pregnancy, being a physiological condition, frequently improves the general health, and even if a fibroid be present, the pregnancy will usually have arrested the periodical hæmorrhages.

It may be asked why I should leave part of the tumour in the pelvis? my answer to this is, that to have enucleated the mass would have added considerably to the risk, and I felt sure that the removal of the appendages would bring about atrophy of the myoma.

I need not enter into the minute details of the operation which are described in the notes of the case; but I must point out to you that although in hospital, where antisepsis can be carried out and where efficient instruments can be obtained, we make the best use of our opportunities, the absence of skilled assistance and the most recent appliances need not deter the surgeon from performing the operation if he should be so placed that they are not obtainable, as with a common

knitting needle to replace the *serre-nœud* pins with two or three feet of india-rubber tubing to act as a tourniquet and afterwards to compress the pedicle, with some boiled silk for ligatures and sutures, a scalpel, a pair of artery forceps, a pair of scissors, a needle, and plenty of boiled water, the surgeon may undertake Porro's operation with a reasonable prospect of success.

I have found no better application for dusting the stump than dry Boric Acid powder and dry aseptic gauze, changed as often as it becomes moistened for the dressing.

ORIGINAL ARTICLE.

ON CORNEAL ULCERS AND THEIR TREATMENT.

By OLEMONTS HAILES, M.D., O.M. Edin.,
Assistant Surgeon to the Bristol Eye Hospital.

ULCERS of the cornea form a large and important group of diseases of the eye treated in the out-patient department of an ophthalmic hospital, and vary in their intensity and importance from mere abrasion of the corneal epithelium to destruction of the substantia propria, both the corneal corpuscles, and the intercellular substance, or even to actual perforation of the anterior wall of the anterior chamber of the eye, and in size from a mere point to a large portion of the corneal surface. The extent of the ulcer can be ascertained by aid of oblique illumination, by means of a lens of 13 dioptries, and the flame of a candle, lamp or gas jet (here we use, by preference, that from an Argand burner); or by the instillation of a few drops of a solution of Fluoresceine, which colours the abraded surface bright green.

They are caused by direct local injury, or by anything interfering with the general nutrition, or blood supply, and may thus be primarily divided into (1) local and (2) constitutional causes.

The local causes consist of burns from acids, or molten substances splashed into the eye, the impaction of splinters of metal or wood, dust or vegetable matters blown into the conjunctival sac, inverted eyelashes, or granular lids rubbing against the cornea, sometimes aided by circumstances which prevent closure of the eyelids as cicatrices from burns, paralysis of the facial nerve, etc.

The constitutional causes being chiefly struma, mal-nutrition, herpes of the fifth nerve, chicken-pox, small-pox, scarletina, whooping-cough, and measles.

The cornea is practically a non-vascular body, as the blood-vessels, capillaries, only extend about 1.5 mm. into its substance around its margin: it is largely dependent on the surrounding network of capillaries for nourishment, and it is evident how easily any interference with the general blood supply will cause death of its tissue; hence it is often the very first part attacked by ulceration in cases of mal-nutrition, and during a severe winter, after floods, when work is scarce and proper food difficult to obtain, and at all times amongst the indigent poor, or after epidemics of weakening diseases, there is a large increase of the number of patients applying at the hospital for relief for ulceration of the cornea. It occurs at all ages, but the constitutional forms are most common among the young and the aged.

Corneal ulceration is accompanied by several prominent symptoms:—(1) Pain in and around the eye varies much. Even in superficial ulcers there is much pain, as the nerve endings go right into the epithelium, and when the surface is denuded, are exposed to the irritation of the atmosphere, dust, and friction of the eyelids. The pain is often more in these than in the deeper forms. (2) Photophobia, because light stimulates the contracting fibres of the pupillary muscles, and a dragging sensation is conveyed to the nerves supplying the cornea, so that the patient shrinks instinctively from light. (3) Spasm of the orbicularis muscle is often another symptom, and is a reflex act to shut out the light. (4) Congestion of the peri-corneal vessels in the conjunctiva, the emptying of which by pressure distinguishes it from the congestion of the subconjunctival zone of vessels seen in iritis. (5) Sneezing, when the eyelid is raised, is another common symptom, the air acting as an irritant to the exposed nerve endings in the cornea, and causing a reflex irritation of the nasal branch of the fifth nerve.

Children, especially those suffering from ulceration after attacks of measles, present a characteristic appearance. They approach you for examination with their eyes shut, and in endeavouring to open them only manage to open their mouths, while there is often some nasal discharge or excoriation at the nostrils. If you attempt to separate the eyelids there is a gush of watery fluid, often with quite

a sudden spurt, and the eyeball turns upwards, so that it is difficult to get a proper view without the use of retractors.

As regards the constitutional ulcers there are many varieties; the ulceration is always preceded by infiltration, and there is generally some swelling or raising of the corneal tissue at the spot about to ulcerate. They may be superficial or deep.

Small central ulcers occur in children badly nourished, commencing as a greyish spot, and then ulcerating; this type is often seen after measles, scarlatina, or whooping-cough. If neglected, pus may form between the layers of the cornea, or the ulcer may suppurate, and discharge the pus into the anterior chamber (hypopion).

A shallow central ulcer with a turbid base occurs in scrofulous persons, and resisting treatment may lapse into a chronic condition.

In purulent ophthalmia, the conjunctiva surrounding the cornea is often chemosed, and by strangulating the peri-corneal vessels causes ulceration of the margin of the cornea; this may escape notice, being hidden by the fold of conjunctiva, and go on to perforation. The earlier the ulcer forms in these cases the more serious it is, when it commences as a diffuse grey infiltration in the centre of the cornea there is a risk of extensive and deep erosion, the cornea being destroyed in a few days.

The infecting sloughing ulcer with hypopion, arises spontaneously in weakly women, scrofulous, or old asthenic subjects after injury or operation. It is often a complication of purulent ophthalmia, traumatic iritis or cyclitis, and is very destructive.

The phlyctenular ulcer, commencing as a pustule at the margin of the cornea, often accompanies other forms of ophthalmia. It is recurrent in nature, sometimes even after considerable intervals of immunity, it is generally found in weak strumous children, not very young ones, and seldom occurs after middle age. The spot or pustule occasionally has a tendency to travel towards the centre of the cornea by ulcerating on its central border and healing on its marginal side, and carries with it a leash of blood vessels which lie on the scar left where the ulcer heals. Dividing the leash of vessels horizontally will often check its further progress.

Another small ulcer with a yellow base occurs in early life, and perforates the cornea down to its posterior epithelium (Descemet's membrane), which bulges through the opening formed from

the pressure of the ocular fluids (keratocele). Ulcers from herpes of the cornea are formed by the little vesicle bursting, as on the skin and mucous membranes. Trophic ulcers also arise from paralysis of the fifth nerve, and in small-pox. A serpiginous ulcer, crescentic in shape, and shallower at its corneal than its sclerotic margin, occurs in old asthenic subjects, is acute or chronic in its course, and if neglected leads to serious complications, hypopion, iritis, perforation, or panophthalmitis.

Corneal ulcers result in—(1) Healing, leaving a slight opacity or nebula, which soon disappears, or a more permanent opacity (leucoma) formed by the scar; or may form a facet, which, though transparent, will cause error of refraction, the rays of light passing through the faceted part of the cornea, focussing at a different point to those passing through the uninjured parts of the cornea.

(2) Anterior staphyloma may result from the weaker portion of the cornea giving way, before the pressure of the intra-ocular fluids, most apt to occur where there is a large ulcer.

(3) Anterior synechiæ may form, the iris becomes entangled in the ulcer, and adheres to the back of the cornea, plastic lymph may be thrown out, and occlusion of the pupil result.

(4) The iris may prolapse through the wound, especially in marginal ulcers.

(5) The lens and vitreous humour may escape through a large central ulcer.

(6) Pyramidal cataract may arise, after a large central ulcer has healed, the cicatrix, giving way before the intra-ocular pressure, ruptures, aqueous escapes, the lens is pushed forward and rests against the opening, lymph is thrown out on the anterior surface of its capsule, the aqueous is re-secreted and pushes back the lens with the lymph adhering to it.

Treatment is based on the following factors:—

(1) Rest to the ulcerated surface by preventing friction: this is best done by carefully-applied pads and bandage.

(2) Relief of pain by instillations of Cocain: Cocain dissolved in castor oil or vaseline also diminishes friction. Opiates are seldom required.

(3) Diminution of ocular tension by instillations of Eserin, and in extreme cases paracentesis of the anterior chamber.

(4) Stimulation of the ulcer by hot douches of Boracic lotion, Pagenstecher's ointment (Yellow

Oxide of Mercury in vaseline). Quinine lotions. Dusting with Calomel powder.

(5) Counter-irritation to the temples, blisters, setons.

(6) Attention to general health, and hygienic surroundings. Tonics. Change of air, and diet.

(7) In cases of local injury remove the causes.

Rest is often sufficiently obtained by diminishing the photophobia with shades or dark glasses, and when such is the case it is better not to use the pad and bandage.

Spasms of the orbicularis muscle must be combated by hot fomentations to the eyelids, holding them over steam, plunging the face into cold water, the application of Nitrate of Silver over the eyebrows. If persistent, the upper lid may be divided vertically, and the flaps turned back, for while blepharospasm remains, local treatment cannot be applied.

In ulcers with purulent inflammation, paracentesis often expedites a cure, or this may be modified by Sæmisch's plan of dividing the ulcer from behind, the knife being passed through the healthy cornea on one side of the ulcer, into the anterior chamber, passed behind the ulcer, and a counter puncture made through the healthy cornea on the other side of the ulcer, the knife then being made to cut its way out. The wound in either case should be kept open by daily probing until the suppuration diminishes. Or the ulcer may be scraped with a sharp curette, or the actual cautery applied to its surface.

The actual cautery should be used in the small central ulcers of badly-fed children, which, not yielding to other treatment, have a tendency to form abscess. In the shallow central ulcers, with turbid bases occurring in scrofulous subjects. In phlyctenular ulcers tending to perforate. In sloughing ulcers, and those occurring in purulent ophthalmia, but not in extensive ulceration, or where perforation has actually taken place.

In the small grey central ulcers of children, accompanied by much photophobia, weak mercurial ointment is most useful. Mr. Hutchinson considers it a specific.

In central ulcers tending to perforate, Atropine drops should be used to keep the iris out of the way. Eserin drops are now the standard lotion for corneal ulcers, they dilate the blood vessels surrounding the cornea, and thus may increase its nourishment, and at the same time they reduce

the intra-ocular tension by promoting drainage of the chambers of the eye.

Lead lotions must be excluded from the treatment of corneal ulcers, as they form an insoluble deposit of Carbonate of Lead on the denuded surface.

Nitrate of Silver must also be avoided, as it causes opacity.

Constitutional treatment must not be lost sight of. Good food, air, and tonics, Quinine, Iron, or Iodine should be administered as circumstances require.

FORMULÆ :

Pagenstecher's ointment.

Yellow Oxide of Mercury grs. iij-vij
Vaselin. 3j

Boracic Acid lotion.

Boracic Acid Powder ... 3j
Hot Water Oj

To be used as hot as patient can bear it.

Eserin lotion.

Eserin Sulphate ... gr. $\frac{1}{8}$ th to gr. j.
Distilled Water 3j

Chlorate of Potash lotion.

Chlorate of Potash ... grs. v
Distilled Water 3j

Can be used hot with advantage.

Migraine may be relieved, Lucking says, with a pill, twice daily for some time, consisting of Indian Hemp one-sixth grain, Phosphide of Zinc one-tenth grain, and Arsenic one-thirtieth grain. The severity of the attack may be effectually diminished with Liquor Trinitrinæ in minim doses two or three times daily.

Sozoidal of Mercury, containing 31 per cent. of Mercury and 38 per cent. Iodine is recommended by Witthauer in 1 per cent. ointment dusting powder or emulsion; the latter is an injection for tubercular fistulas.

Turpentine in Typhoid Fever is coming more and more in favour with the newer generation, though with many older practitioners it has been the drug upon which the greatest reliance has been placed. Wood regards it as invaluable where, in convalescence, symptoms point to slowness in healing of the ulcers, or where, in the second week, there is decided Tympanites.—(*Med. Rec.*)

CLINICAL NOTES.

(Specially reported for *The Clinical Journal*. Revised by the Author.)

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WITH DR. WHIPHAM IN THE WARDS OF ST. GEORGE'S HOSPITAL, MARCH 11th, 1893.

A Case of Gastric Ulcer.

This girl, who has Gastric Ulcer, says that she is hungry, and would like something solid to eat. She has only just been allowed to take small quantities of milk by the mouth, for, in accordance with modern experience, we treat gastric ulcer by means of rest, general and local. I always regard the return of appetite as a sign that the ulcer is healing, and that the gastric irritation has subsided. Before, however, I allow her to have any solid food, I shall want to be sure that all local signs, such as tenderness on pressure, and resistance of muscles on pressure, have disappeared. In this girl you can see this resistance of the muscles when I press on the epigastrium. I shall not, therefore, give her any solid food at present.

I order all these cases Iron so soon as the tenderness has gone, giving 5 grains of the Carbonate once or twice daily.

For nutrient enemata I use 1 pint milk, 1 pint beef tea, and six eggs; some Fairchild's peptonizing powder is added to make it more digestible, and some starch, so as to thicken it. Four ounces of this mixture are administered every four hours. If the rectum is irritable, 5 minims of the Tincture of Opium added to each enema are as a rule, sufficient to allay the irritability, and enable the patient to retain the enemata.

A Case of Ventral Hernia presenting along the track formed by an Abscess.

This man presents an unusual condition; a hernia presenting to the right of the middle line of the abdomen at a level about midway between the umbilicus and the ensiform cartilage. When a young man in India he had severe dysentery; some ten years after this an abscess formed, the cause of which is doubtful, and presented at a point in the centre of the abdomen midway between the umbilicus and ensiform cartilage. It

was opened, and you can see the scar at this point.

Six years ago he was admitted under the care of my colleague, Dr. Cavafy, with a swelling in the same region as the abscess. This disappeared after a few weeks rest.

He came under my care a fortnight ago with a swelling which is still present, and which my colleague, Mr. Pick, diagnoses as a ventral hernia presenting along the track formed by the abscess. You can feel what is apparently gut, and also some hard lumps, which are probably omentum. He tells us a fact which confirms the diagnosis as to the nature of the tumour: that since the abscess he has been accustomed to wear a belt to give support to this part, and that so long as he wore it there was no tumour. When, however, the belt was beginning to wear out, the tumour reappeared, and on giving up the belt altogether, it increased to its present size.

The treatment has been a saline purgative every morning with the view of keeping the intestines as empty as possible, and 20 minims of Liquor Potassæ three times daily, as being likely to cause a diminution of the fat in the body generally, and of the omentum in particular. So far this treatment suggested by Mr. Pick has been most successful: the sac now contains scarcely any, if any, intestine, while the more solid contents are decidedly reduced in size.

A Case in which a Pericardial friction sound persisted for some weeks with- out any effusion.

This young woman was admitted about six weeks ago with acute rheumatism, in the course of which pleurisy and pericarditis developed a few days after admission. The interesting point in the case was the persistence of the pericardial friction sound for some weeks without any effusion. The patient is now convalescent.

A Case of Erythema Nodosum.

This young woman was admitted here about three weeks ago, suffering from severe Erythema Nodosum. The eruption became confluent on the front of both legs, and was accompanied by much oedema. She is now practically well. For such cases I find that Quinine in doses of three or four grains, together with a mixture containing about five grains of Potassium Iodide, taken three times daily, produces very good results.

A Case of Myxœdema in which Relapses occurred after apparent Cure by Thyroid preparations.

This patient is of especial interest as one in whom Myxœdema has been temporarily relieved on two occasions by Thyroid preparations. She came here first in February, 1892, with well-marked symptoms of myxœdema. She was treated by hypodermic injections of Thyroid Extract, 25 minims at a time, every week, and made a great improvement under this treatment: the skin became moist, the hair lost the dry feeling, her face regained expression, and the speech became quicker and less indistinct. She left the hospital in April, 1892, but returned in the July following with recurrence of all symptoms. She was treated in the same way with the same results. In August, 1892, she was sent to the convalescent home at Wimbledon, and there she remained until the following October, the treatment being carried out during all this period. The symptoms had all yielded to the treatment, but the relief was again temporary, for she came back again early in February (about five weeks ago) with recurrence of all symptoms. Under these circumstances, it has been decided, after consultation, to perform transplantation of the thyroid gland in the hope of obtaining a permanent cure.

Another case under similar treatment, about the time when this patient first came under observation, presented such typical characteristics of myxœdema that she was accustomed, when opportunity occurred, to attend as "a case" at the various examination boards. After being subjected to the hypodermic injections of Thyroid Extract for some weeks, she was again sent as a subject for examination, but was rejected because she did not present sufficiently-marked symptoms of myxœdema to be of any use as a test for the candidates at the examination. She was in consequence rather disposed to complain that she had been deprived of the means of increasing her income.

The use of Antimony in the early stages of Acute Diseases.

I find that Antimony, given in the early stages of acute diseases, is of great use in many cases. In pneumonia during the stage characterised by fine crepitations, I usually give, except where positively contra-indicated, 20 minims of the Vinum Antimoniale every four hours, so long as these crepita-

tions are audible, and until the physical signs indicate that hepatisation has supervened. When consolidation has taken place, a depressant is certainly contra-indicated, and I strike it out of the prescription at once.

I cannot but think that Antimony thus cautiously administered is beneficial in many cases, and this was impressed upon me some few years ago, when I was called to see a gentleman of extremely good physique, who was suffering from an attack of acute eczema of the forearm. The skin was highly inflamed, swollen, and the arm was extremely painful. I ordered him a mixture, of which the active ingredient was Vinum Antimoniale (20 minim doses every four hours). After the second dose he described the relief to his sufferings as "marvellous." In the end he was delighted, and I was astonished at the rapid subsidence of his disease.

Recurrence of Pyrexia after Typhoid Fever.

This child, æt. 7, was admitted here, suffering from Typhoid Fever on January 26th, 1893. The fever ran an ordinary course and the temperature came down to normal. A week ago it commenced to rise, reaching 102° in four days, it has now come down again almost to normal. There was nothing to suggest that the rise of temperature was due to a relapse.

On examining the right lung we find posteriorly some dulness, increased T.V.F., increased vocal resonance, harsh breath sounds on expiration, but no adventitious sounds. Knowing how apt any acute disease is to light up the mischief in one of a tubercular tendency, it is a case to be watched carefully. Though still somewhat in doubt as to the meaning of this temperature, the case is instructive that recurrence of pyrexia after typhoid does not of necessity indicate a relapse. A recurrence of high temperature following close upon the commencement of convalescence after an attack of typhoid, demands a very careful examination of all the viscera, and more especially of the lungs.

Perityphlitis treated in early stages by leeching, Mercurial ointment containing Belladonna, small blisters, Calomel and Opium, and gentle laxatives has generally recovered in the practice of Revilloid.—(*Rev. Méd. de la Suisse Rom.*)

WITH MR. MARMADUKE SHEILD IN THE OUT-PATIENT DEPARTMENT AT CHARING CROSS HOSPITAL.

Incomplete Cleft-Palate in an Infant.

This child has a partial cleft palate and has been sent here to see me as to the advisability of an operation. I shall not operate now, as the child is only a few weeks old. I prefer to operate in these cases when the child is from $2\frac{1}{2}$ to 3 years of age. It is better to defer the operation until that age, both for the sake of the operator and that of the child. The surgeon has more room at his disposal then in the mouth, and the loss of blood consequent on the operation is not of such importance to the child. A child of 3 years of age can bear a loss of blood which would be very serious for a young infant. To be sure that the child is properly fed, and to see that she keeps in good health, I shall see her at intervals of a few months until then. The better the child's health the better will be the chance of a successful operation.

Pustular Eczema of the Hands.

This is mostly due to local causes; thus you find it in bakers as the result of irritation from bread making, in grocers as the result of irritation from the handling of moist sugar, and in other trades as the result of constant irritation of some sort or other. It is very frequently the result of scabies, and in this condition you will find the characteristic burrows, the disease will affect both hands, and you will find signs of scabies elsewhere. One important fact to remember is that it is due to a micro-organism, and is consequently contagious; another, that no wet application must be used, as this will not only aggravate the condition present, but will cause it to spread rapidly to other parts. You will find it more common in fair-haired, blue-eyed people than in dark ones.

I get the best results with the diluted Unguentum Hydrargyri Ammoniata (half the pharmacopœial strength) as a local application, and the internal administration of the Carbonate of Iron.

Phagedenic Sore on Penis.

It is very seldom one sees this now, but this old man, of alcoholic habits, with general malnutrition and weakness presents the condition.

There is a sore on the dorsum of the penis, covered by a black slough; the glands in the groin are bullet-like to the feel, and there is no doubt as to the sore being specific.

He came here a week ago and was ordered Iodoform ointment as a local application, with Opium and Bark internally. The condition is now worse. If he could get it, I believe the best treatment would be for him to have a continuous warm hip-bath. This being impossible for an out-patient I shall remove the slough, and then after applying a solution of Cocaine, cover the sore with Ricord's paste.

These sores sometimes produce great hæmorrhage by ulceration through the coats of the dorsal artery of the penis. As the tissues are rotten ligatures are often useless. The best way to check the hæmorrhage is to insert a needle under the artery, and then apply pressure by a figure of eight ligature over the ends of the needle.

When to Open a Suppurating Bubo.

It is advocated by some that the bubo should be opened early, by others that it should be opened late. The terms are vague, and it is not possible to say that all buboes of the same duration would be in the same stage of advancement. I find it a useful rule to open a bubo as soon as I feel a soft fluctuating spot at the centre by means of a tenotome.

THERAPEUTICAL NOTES AND FORMULÆ.

Picrotoxine in the Night-sweats of Phthisis.

—Dr. d'Amore has published his experience with Picrotoxine and Atropine in the night-sweats of phthisis. He gives the Picrotoxine in granules containing $\frac{1}{100}$ of a grain each. The author reports forty-five cases thus treated. In fifteen advanced cases he gave without success two pills of Atropine containing $\frac{1}{4}$ of a grain each daily; in these cases, two to four granules of Picrotoxine, continued for several days, relieved the condition very much. In twenty cases, with less pronounced lesions, Atropine did well in some and failed in others; but Picrotoxine, used for several days, checked the sweating completely. Finally, in ten early cases, the results were equally good from the use of either drug. The writer explains these differences by the cause of the sweating in the

several stages of the disorder. In the early stages much of the sweating is due to the action of the secretory nerves, and these are controlled by Atropine; later, the sweating is due more to paralysis of the vaso-motors, and as Atropine does not act upon these it loses its power, while Picrotoxine, which does not act upon the vaso-motor system, retains its value in the advanced stage.

Les Nouveaux Remèdes.

Diarrhœa from Retroflexion.—Dr. Fischel records the case of a woman, aged 23, who was seized with violent diarrhœa a few days after recovery from confinement. It commenced regularly between 4 and 7 a.m., preceded by hypogastric pains and a feeling of anxiety. Four or five motions were passed. At the end of three weeks the patient was very emaciated, having lost nearly twenty pounds in weight. No drugs were of service, and rest did no good. Fischel explored the pelvis and discovered retroflexion of the uterus, which to his knowledge had previously lain in its right axis. Following Schauta's directions, the displacement was rectified, and a pessary applied. Next morning the diarrhœa ceased and did not return. Nine months later the pessary became displaced, and the intestinal catarrh returned, but ceased on rectification of the position of the pessary. A year and a half later the pessary was removed with the same result; on its replacement the retroflexion was rectified and the diarrhœa once more ceased.—*Prager Medicinische Wochenschrift.*

For Migraine. (Hare's *System of Therapeutics*):

R Ext. Cannabis Ind. ... gr. $\frac{1}{8}$
 Acid. Arseniosi ... gr. $\frac{1}{80}$
 Ferri Redact. ... gr. j

Fiat pil No. j. Sig. One pill three times a day. The dose may be increased to two or even three pills three times a day.

Or:

R Ext. Cannabis Ind. ... gr. $\frac{1}{8}$
 Pulv. Digitalis ... gr. $\frac{1}{2}$
 Ferri Lactat. ... gr. ij

Fiat pil No. j. Sig. Take one pill three times a day after meals.

Or (where there is a hyperæmic condition of the brain):

R Ext. Cannabis Ind. ... gr. $\frac{1}{8}$
 Ext. Nuc Vom. ... gr. $\frac{1}{4}$
 Ergotini ... gr. j

Fiat pil No. j. Sig. One pill three times a day after meals.

REVIEW.

The Medical Annual and Practitioner's Index.

1893. Eleventh year. (John Wright & Co., Bristol.) *Published at 7s. 6d.*

This useful and practical book is divided into sections: I. Therapeutics; the Dictionary of New Remedies and Review of Therapeutic Progress for 1892, and II. New Treatment; a Dictionary of New Treatment in Medicine and Surgery. Section I., consisting of 58 pages, contains, after a brief introduction by Professor H. A. Hare, M.D., a list of the more recent additions to the Pharmacopœia, with an account of the action and uses of each one. Where possible it gives the bibliography also. Section II., consisting of about 500 pages, is the most important part of the book. The subjects are arranged in alphabetical order, and are consequently easy of access.

There are a considerable number of diagrams and illustrations which add considerably to the value of the articles. The coloured illustrations drawn by Dr. Watson Williams to illustrate his article on Laryngoscopy, form a valuable addition to the numerous diagrams, as they convey to the reader the appearance of the larynx under different conditions in a way that no uncoloured diagram could possibly do.

The article on Cholera is both interesting and useful. A short account of the sanitary measures and the treatment adopted in last year's outbreak in Hamburg by Dr. Reiche, of that in Russia by Dr. Sisley, and of that in Kashmir by Dr. Mitra, will be a most valuable reference for all practitioners, should cholera invade our shores during the present year. Sir George Johnson, Mr. Macnamara, and Dr. Thorne contribute short articles on this subject.

There is a short section on Public Health and a list of the more important books published during the last twelve months.

This book contains a fund of practical information as regards treatment, that renders it a most valuable means for bringing one's knowledge up to date.

It is well printed and strongly bound. We can recommend it as a practical and useful compendium of the recent knowledge as regards treatment, and many other points concerned in the science of medicine.

THE CLINICAL JOURNAL.

WEDNESDAY, MARCH 29, 1893.

A CLINICAL LECTURE

ON

Some Cases of General Paralysis of the Insane, of Locomotor Ataxy, a Case of Epilepsy, and some Cases of Heart Disease.

Delivered at the Central London Sick Asylum, in connection with the London Post-Graduate Course, February 22nd, 1893, by

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LADIES AND GENTLEMEN,—It gives me much pleasure to meet you here this afternoon in order to discuss with you some of the interesting and instructive cases which Mr. Hopkins has kindly placed at our disposal for that purpose. I need scarcely say that in an institution such as that in which we are now assembled, there is always to be found, by those who seek with insight, a large amount of valuable clinical material. But the cases for the most part are of a more chronic character than those met with in ordinary hospitals; and it is often difficult to meet with groups of them which are so far mutually illustrative, or so far collectively illustrative of some point of science or of practice, as to serve as the groundwork for a discussion or discourse directed to the elucidation of some special subject.

Under these circumstances, I propose to bring under your notice not one group, but several groups, of cases, and to consider with you the lessons which they severally teach. But before taking you into the wards it will be convenient, I think, to make a few remarks on each of these groups, and to call your attention to the main facts and points of interest, as they seem to me, in the individual cases, which you will presently have the opportunity of examining for yourselves.

The first group of cases illustrates the subject of general paralysis of the insane. This is a disease for the most part of middle life, and attacks men in much larger proportion than women. It is characterized by the association of paralytic symptoms and mental derangement. The

paralytic phenomena include progressive general weakness of the muscular system, associated with tremors which show themselves specially in the hands and fingers when these are held out or are in use, in the tongue when it is protruded, and in the lips during speech, and by inequality of the pupils. The tremor of the hands is shown in the hand-writing, which becomes shaky and uncertain; and that of the lips, and other organs of articulation, not only by tremors of the lips showing themselves particularly at the beginnings of words and syllables, and which may extend to all the muscles of expression, but by a hesitation of speech, which may pass into well-marked stammering and into unintelligibility. The mental phenomena are those of progressive mental deterioration. They include irritability and restlessness, insomnia, failure of memory, which shows itself among other things in the misuse of words, and in blunders in writing, loss of self-control, which often leads the patient to spend money extravagantly, and to conduct himself foolishly and unaccountably, and delusions which are for the most part grandiose, and relate to his position and importance, to his wealth and influence, and to his physical and mental powers. He is also liable to suffer from epileptiform attacks, to grind his teeth, and to present a peculiarly greasy condition of skin. All the above phenomena appear to be the result of some chronic degeneration or inflammatory process affecting the cerebral cortex. The collective symptoms of fairly advanced general paralysis are so characteristic that in most cases the nature of the disease cannot be overlooked. At the same time it is very important to bear in mind, that in its earlier stages (which sometimes last for several years), owing to the fact that there may be only one or two symptoms present, and these only slightly marked, the disease may easily fail of recognition; that even in an advanced stage the paralytic symptoms may be unassociated with obvious mental defect, and conversely, and that hence uncertainty of diagnosis may result; and lastly that the symptoms of this disease may be simulated by those of tumours in the brain, but more especially by those of cerebral syphilis, of chronic alcoholism, and of senile dementia, in each of which the cerebral cortex is apt to be the seat of diffused morbid change. I

may add also that the symptoms of general paralysis are often associated with some of those which are also observed in locomotor ataxy and disseminated sclerosis. Thus in many cases of general paralysis the patellar tendon reflexes are absent; and the pupils may present the Argyll-Robertson phenomenon; and, again, in many cases the tendon reflexes are greatly exaggerated, and associated with clonus. And for these reasons many cases of general paralysis are in their earlier stages mistaken for one or other of these latter disorders. It may be worth while to point out that when persons are conscious of a little difficulty of articulation or of a little difficulty in the use of the pen, they are apt to endeavour to counteract these defaults by taking special pains in articulating or writing, and I recollect very well some few years ago I made some remark to this effect in relation to a case under my care, when Dr. Savage, who was going round the wards with me, observed, to the amusement of the class: Yes, Dr. Bristowe, and if you or I become a general paralytic, no doubt the first evidence of the fact will be that the sufferer's hand-writing will become legible.

The cases to which I am about to direct your attention are none of them typical, for lunatics are not retained in this infirmary. Moreover, the histories are generally incomplete or untrustworthy. But the cases are none the less interesting, and are even more worthy of study for these very reasons.

The first case is that of a man, aged 32, who has been in hospital for four months. He suffers from muscular debility: he has well-marked tremor of the hands and fingers: his tongue is tremulous when protruded, and his speech is characteristic. His pupils are small and equal, and act to accommodation, but not to light; and his tendon reflexes are greatly exaggerated. His mind appears to be clear, and he has no delusions. The symptoms here are curiously mixed, for the condition of the eyes is suggestive of locomotor ataxy, while that of the legs is suggestive of disseminated sclerosis; and the absence of obvious mental defect, is, so far as it goes, adverse to the interpretation I have ventured to put upon the case. Still, I regard this tendency to the association of incongruous symptoms, as of itself, pointing to general paralysis: a view which is strongly supported by the tremor of the fingers, and the highly characteristic speech.

The second case is that of a man aged 44. I cannot give you his history, nor is there much to

be said about him. He has tremors of the hands, exaggerated tendon reflexes, and characteristic speech, and is said to be very passionate. But his pupils are equal, and he has no delusions.

The third case is that of a man aged 74, who was admitted about seven months ago. He also has exaggerated tendon reflexes, tremor of the hands, and characteristic speech. Moreover, his pupils are unequal; but, on the other hand, he has no mental failure, and his age is somewhat against the general paralytic view. The alternative diagnosis would seem to be that of degenerative changes due to senility. But even if this view be taken it is probable that they occupy the same regions as those causing general paralysis; and if so, it may reasonably be urged that to argue that the case is one of senility, and not one of general paralysis, is to make a distinction without a difference.

The fourth case is that of a single woman, 28 years of age, who has been under treatment for the last eighteen months. Her history, as far as can be ascertained, is to the effect that she has drank heavily; that about four years ago she had a fit, and was taken into King's College Hospital; and that since she has been in the infirmary she has been liable to bouts of vomiting, and has presented the symptoms which she now exhibits. She has tremors of the hands, there are no knee-jerks; her pupils are unequal, and her speech is typical; her memory is very defective, she is sometimes unusually jovial, sometimes miserable, and liable to violent outbursts of temper. She does not appear to have had delusions. I do not think there can be any doubt as to the nature of this case, for excepting for the absence of delusions her symptoms are quite typical; on the other hand, it may be argued that the symptoms are due to chronic alcoholism, and again, that general paralysis is rarely met with in young women. As to the first objection I may point out that drink is one of the accepted causes of general paralysis, and that while she never seems to have had delirium tremens, she has been an enforced teetotaler for the last fifteen months; and as to the second, general paralysis does occasionally attack young women, and I once had under my care a girl of 17, who died of the disease, and in whom the diagnosis was verified by post-mortem examination. I should have pointed out that the occurrence of an epileptic fit at the apparent commencement of the symptoms, is itself suggestive of general paralysis.

My last case is, I acknowledge, by no means a clear one. It is that of a man of 30, who has drank heavily ever since he was 20, who has had gout off and on ever since he was 25, and who, until three years ago, was a plumber by occupation. He seems never to have had dropped wrist or lead-colic. His present illness is said to be of about three months' duration. It began with a feeling of pins and needles all over him, and a recurrence of gout. These phenomena have subsided; but he has suffered ever since from attacks of low-spirits, has been sleepless, has presented general tremors, and characteristic difficulty of speech. The circumstances which render the case doubtful are the long and recent history of drink, the exposure for some years to the danger of lead-poisoning, the markedly gouty tendency, the absence of some of the more striking phenomena of general paralysis, and the fact that the patient has been improving. The case is one to watch.

The second group of cases comprises four of locomotor ataxy, of which three present points of special interest. I need not detail the usual symptoms of this disease. But I may call attention to the fact that over and above the usual distinctive symptoms, other symptoms are apt to arise, due to the extension of sclerotic changes into the medulla oblongata or other parts of the nervous centres which are not habitually or necessarily implicated.

The first case is a simple and typical one in a man of 65, who has suffered for twenty years, and who is now bedridden. He has pin-hole pupils, which do not act to light; he has impairment of feeling in the hands and feet, and inco-ordination of movement, with abolition of knee-jerks; in other respects he remains fairly well.

The second case is that of a man of 56, who states that he has been ailing for only two years. He says that his first symptoms were the occurrence of pains in the legs, which have continued ever since, and that he has had difficulty in walking for only eleven months. At the present time he walks with something of an ataxic gait, he has numbness of the feet, and absence of knee-jerks; he has tingling with tremor in the hands and some clumsiness in their use, and he presents the Argyll-Robertson pupil. So far the symptoms are of an ordinary character, but are quite distinctive. It appears, however, that in addition he has had four attacks of what has been assumed to be laryngeal spasm. These attacks were of short duration,

occurred in couples, and were characterised by severe inspiratory dyspnoea. Now I have not had the opportunity of examining the larynx, and I fear there will be no opportunity this afternoon. But it ought to be examined; and I may say that I suspect that he is suffering from early paralysis of the abductors of the larynx—an affection which is not uncommon in connection with locomotor ataxy and disseminated sclerosis, and is due to extension of disease into the medulla oblongata. It may be said that if these attacks were caused by a progressive lesion, the inspiratory dyspnoea should have been slowly getting more continuous and severe. From mere *a priori* considerations one might be disposed to assent to this statement. But facts point the other way; and I may mention that in a case that was formerly under my care, and which I published, the patient was liable to such attacks, often of only momentary duration, remaining in the intervals wholly free from dyspnoea or other symptomatic evidence of laryngeal disease; yet it was found that he had complete paralysis of the abductors of one vocal cord, and marked paralysis of those of the other cord. No doubt that in all such cases there is a tendency for the dyspnoea after a time to become constant, and for the cases to end fatally.

The third case is also interesting. It is that of a man of 42, who has been ill since 1880. He cannot stand, has numbness of the feet and hands, his movements are clumsy and inco-ordinate, his patellar tendon reflexes are absent; but he has also affection of the eyes. The left eye is blind, and has been so for some time; the field of vision of the right eye is much contracted, but he can see fairly well. The movements of the eyes are imperfect, and on the left side all the nerves seem paralyzed, excepting the superior oblique, the only movement of the pupil (which is, when at rest, directed slightly inwards) being downwards and to the left, attended with rotation of the eye-ball. There is atrophy of the discs.

The last case also presents some points of interest. The patient is a man 42 years of age, who has been ill for twelve months only. His illness began with shooting pains in the legs, and a sense of pins and needles, and he has had for the last seven months some difficulty in walking. His pupils are small (the right being the larger), and do not act to light. His gait is quite natural; but he has no tendon reflexes. There is no numbness or impairment of tactile sensation, but he has no

appreciation of pain anywhere below the knees. His memory is said to be defective. Now, is this a case of locomotor ataxy? No doubt the absence of knee-jerks and the condition of the pupils point to this condition; but on the other hand the retention of ordinary tactile sensation, with the abolition of sense of pain is suggestive, it seems to me, of some lesion around the central spinal canal.

A case of epilepsy due apparently to a railway accident is worthy of notice. This patient is a man 57 years of age, who, eighteen years ago, received an injury to the back in a railway accident. He soon recovered from the immediate effects, but became liable to epileptic fits. Four years afterwards he became paraplegic, and has remained so ever since. The fits continued down to four years ago; since which time he has remained absolutely free from them. The fits were preceded by an aura beginning at the seat of injury in the back, passing thence downwards to the toes, then returning to the back, and, after a moment's delay, rising to the head, when unconsciousness came on. The last few fits were ushered in with the appearance of processions of images before the eyes. In the fits the back was arched. A very remarkable fact in relation to his fits is that they were always induced by any movement of the trunk, whether due to his own initiative or to his being moved by an attendant, and that they never occurred at any other time, and that their absence during the last few years seems to be wholly referable to the fact that his back has been kept supported by a special apparatus.

I do not pretend to explain this case. But it is interesting to me because of its close resemblance to another case which was under my care more than thirty years ago, and which was published in my Croonian Lectures delivered before the College of Physicians in 1872. The patient was a boy aged 14, who had been liable to fits for two years, and for a week or two before admission had had them night and day with scarcely any interval between them, and, indeed, had been wholly unconscious for two or three days. He was unconscious and thought to be dying on admission, but he became conscious in a short time, and it was then found that he had inco-ordination of his lower extremities; and not only so, but that, whenever he attempted to move them, a feeling of tingling starting from the toes spread upwards, and after a second or two was followed by a loud dis-

treassing scream, which ushered in an epileptic fit of about half a minute's duration. This sequence was constant, and during the day he managed, in great measure by keeping himself still, to avoid having any fit; but at night, while he was asleep, and the legs were not under voluntary control, they were pretty frequent. The fits gradually increased in number, especially by night; and at the end of twenty-three days they became so frequent that the patients in the ward with him were kept awake all night by his rapidly recurring screams. He recovered quickly under treatment by Arsenic, and a fortnight later was apparently well. I cannot explain this case any more than the other; but I may mention that there was no reason to suspect that any injury had been inflicted on the back, or that he suffered from any organic disease of the cord or its membranes.

The last cases to which I propose to direct your attention are three cases of heart affection. The first case is that of a woman of 70 who seems to suffer, though not in an aggravated degree, from what it is now fashionable to term tachycardia. I do not know her history, but she seems to have been ailing for some time, and to have suffered from palpitation and shortness of breath. The heart's sounds are free from murmur, and the organ itself does not appear to be sensibly enlarged: at the present time the beats are about 100 in the minute, but they are irregular, and alternately (for several seconds at a time) fall to the rate of 70 or 80, and rise to that of 3 a second or 180 in the minute. I wish to point out that the more rapid beats are not always clearly represented by pulsation at the wrist; and that in order to count accurately, it is best to count the beats of the heart as heard through the stethoscope. By this method it is not difficult to count correctly, even if the cardiac contractions exceed 300 in the minute.

The other two cases I bring under your notice mainly, because in both of them capillary pulsation may be observed in the lips on looking at them through a glass slide pressed gently against them. You will observe rhythmical variation in the depth of colour corresponding with the rhythmical action of the heart, either general over the compressed surface or limited to particular lines or areas, situated mainly at the margins. This method of observing capillary pulsation is better and more elegant than the older one of pressing or rubbing the finger upon the forehead, and observing the wavy return of colour to the anæmic area. The capillary pulsa-

tion is a characteristic incident in the course of aortic regurgitation; but is not limited to this condition: for it is often well-seen in cases of simple anæmia and in convalescence from acute febrile disorders. It indicates, in fact, the presence of unfilled arteries, whether this condition be due to aortic regurgitation or to any other cause. The first of these two cases is one of double aortic murmur, due to atheromatous degeneration, in a man of 62. The other is a case for diagnosis, and in regard to which there is plenty of room for difference of opinion. The patient is a woman of 42, who has had two attacks of rheumatic fever. She is at the present time suffering from weakness and anæmia, and presents loud cardiac murmurs. These are difficult to describe with accuracy, but they almost disappear when the patient is lying down; and, notwithstanding the history of rheumatism, I believe they are altogether independent of valvular disease.

A CLINICAL LECTURE

ON

A CASE OF INGUINAL HERNIA.

Delivered at St. Thomas's Hospital

By **SIR WILLIAM MAC CORMAC**,

Surgeon to the Hospital.

GENTLEMEN,—We are presently going to operate by what is termed the method of radical cure upon a case of oblique Inguinal Hernia, and I think this a good opportunity to say something about hernia in general, in its relation to this method of treatment. I need scarcely repeat how generally interesting is the subject of rupture, how many-sided its different features are, nor how each case presents special characters of its own. As for this particular patient: seven years ago, when 16 years of age, he states he had a severe fit of coughing, to which he ascribes his rupture. The hernia apparently descended at once into the scrotum; the history given is not a very accurate or clear one, but we questioned him very closely, and found out the hernia had become at its first inception a scrotal hernia. I need not give you in full the symptoms of the case, but I may mention that when hernia of a congenital nature suddenly appears, as it not infrequently does for the first time in young men of 16 or 18 years, it is often accompanied by great

pain and distress. In this case there must have been considerable pain, since he was treated by leeching and poulticing, a treatment which serves to indicate the severe character of the trouble he was suffering from. From that time to the present he has suffered more or less from this hernia, which became by degrees gradually larger. It does not now go back completely even at night, and when he goes about at his employment it causes him a good deal of pain. It appears he wears a truss, but it seems very imperfectly to control the hernia. Well, as I have said, the hernia is of a congenital nature, that is to say, it is due to an imperfect closure of the vaginal process of the peritoneum.

The vaginal process of peritoneum has not remained patent throughout, so that the hernial contents are not in contact with the testicle. The process has become obliterated close above this organ, so that the testicle is separated from the hernia, and the variety is that called funicular. This variety of hernia, due to congenital deficiency, is in my experience quite as frequent as the other form, where the vaginal process is patent throughout. In distinguishing it from an ordinary acquired scrotal hernia, we have usually the history of its sudden and complete occurrence to guide us, and the circumstance that the testis is quite at the bottom of the tumour in place of being behind it.

This is, in brief, the present condition of this young man, for whom I hope to perform a radical cure. With regard to the treatment of cases which are not strangulated—or, as the Germans call it, “free” hernia, from the ready transference of the contents from the abdominal cavity to the hernial sac and *vice versa*—with regard to these cases, in former times, and to a considerable extent even now, the treatment consisted in the wearing of trusses, a treatment sometimes very effective, because the relief the patient receives enables him to do his daily work; and because it is a practical cure, in so far as it generally prevents him from suffering the consequences which a hernia might otherwise entail. It was a matter of great reluctance in former times to interfere with the hernia in any way involving the making of a wound, and the reason of this reluctance was the fear of wound accidents of different kinds.

Various attempts have been made in times past, and more especially during the last fifty years, to procure a radical obliteration of the channel by which the tumour leaves the abdominal cavity, and these attempts were commonly in the nature of a

subcutaneous method, so as not to incur any danger of wound infection, the great source of peril in the pre-antiseptic days. The treatment consisted of passing subcutaneously wires, sutures, or ligatures through some portion of the scrotal wall into the hernial canal, and thereby fixing a plug of tissue in the inguinal canal which acted as a sort of cork, interposing possibly a sufficient obstacle to the reappearance of the hernia.

Wood's operation seemed in his hands to prove all he desired; in other persons' hands, however, it was not so successful, and was frequently followed by relapse, while the operation itself was not free from risks of a very serious kind. Now, since surgical practice has improved in the way you are familiar with, we do not hesitate to make an open wound, and thereby having access to the parts, we have an opportunity of dealing with the disease much more effectively than we otherwise could. I do not mean now to speak of the radical cure, as applied to cases of strangulated hernia requiring operation (the term, I may here say, has been objected to, because it is not absolutely a cure, but, as a rule, it ensures at all events a very radical improvement as regards the condition of the patient), further than to say that in all suitable cases in this hospital the operation of herniotomy is no longer considered complete, unless, in addition to the relief of the strangulation, there be added some method of trying to prevent in the future a recurrence of the hernial tumour; so that after doing an operation to relieve a strangulation, we endeavour at the same time to place the patient in a better state for the subsequent complete relief from the dangerous condition he suffered from before. There are in some cases reasons which cause one to abstain from completing the operation in this way, such as the great weakness of the patient, forbidding anything prolonging the operation, or when the vitality of the bowel is compromised, but these cases are exceptional; and exceptional conditions apart, we do, as I have already said, apply this method to most, if not all, cases of strangulated hernia. With regard to cases of "free" hernia, they are, of course, more favourable for the operation, as there is no antecedent injury produced by taxis, for instance, no pressure on the bowel by the tense structures causing the stricture, or damage to the coverings of the hernial sac, or changes in the intestine to such a degree that it may be on the verge of gangrene. The local conditions are therefore favourable, and

we have, now that the application of antiseptic methods has come into general use, an assurance we never before possessed that the abdominal cavity may be opened without materially increasing the risk to the patient, if we are prepared to carry out thoroughly and properly the precautions we know to be necessary.

Now, in cases of this kind—non-strangulated cases—we have different classes to deal with, and they differ in the manner in which they lend themselves to success in operative procedure. There are the two great classes, acquired and congenital varieties of hernia, and of these two forms we may say at once that the acquired form, that which comes on gradually, which is dependent very possibly on predisposition, which is connected in some degree with hereditary tendency, which is accompanied by a patulous condition of the inguinal canal, which has, perhaps, some predisposing cause present to determine its occurrence, does not lend itself so readily to the radical method of cure as does the congenital form; that is to say, those cases dependent upon no deficiency of vital power, but upon the accidental non-closure or partial closure of the vaginal process of peritoneum. That this condition does not necessarily entail the formation of a permanent rupture is shown by the fact that if treatment be resorted to sufficiently early, if you be prompt in your application of the means for restraining the hernial descent soon after the birth of the child, you can effectively assist, in a very large proportion of cases, in procuring the obliteration of the canal; there is a natural effort of the parts tending to the same end, and if you assist this effort of nature by means applied as soon as possible after the birth of the child, or after it comes under observation, it may be that in a great number of instances you will procure a successful result. This effort, to prevent the descent of the hernia, should therefore be made in all cases of young children by means of a properly fitting support, and the effort should be continued for several months, or a year, or two or more years if necessary, in the hope of procuring closure, and very often it succeeds even after this long interval. If, on the other hand, you have a child brought to you who has had a neglected hernia from the time of birth, which is very large, and which has caused much enlargement of the inguinal canal, then your chances of effecting a closure by means of a truss are but small, and yet I will not say that even in these cases you should not make a reasonable

effort to cure the condition by the application of a truss in children under three or four years of age, but after five or six years the chances of success become very remote. Very young children are not good subjects for operation on account of the greater liability to a septic condition of the wound, and therefore the risks incurred in the treatment in this way of quite young children are greater than those which obtain in the case of older persons, and that is a restriction, I think, on the employment of the operative method of cure. Otherwise, cases of congenital hernia are the most favourable for the application of the radical method of treatment. You must never forget that the form of hernia called congenital, dependent on abnormal development, may occur at any period of life; there is no more common time for it to make its appearance than at the age of 16 or 18. I have seen a great number of cases in which the first appearance of congenital hernia descending all at once into the scrotum took place at this time, the time of the greatest activity of a young person, when he may be called upon to make great efforts, and to undergo a great amount of strain. For these reasons the hernia, which since birth had not descended, may now be thrust downward into the scrotal cavity.

Now, before performing an operation of this sort for a condition, which for a long time was considered not to justify the risk of operation at all, we must first inquire what the nature of that risk may be; and I think I may quite reassure you by telling you that this risk is a very small one if the operation be performed with all the precautions which alone justify you in performing it. Mr. Abbott, our Surgical Registrar, has very kindly made out a list of operations of this sort which I myself have performed during the last four years, and it appears, that, of these cases, which are exclusively those in which there were no symptoms of strangulation or incarceration, the number is thirty-nine—thirty-seven males and two females;—three of these cases were examples of double hernia in which a double operation was performed, so that in fact forty-two cases of operation for radical cure, all of them being cases of inguinal hernia, are recorded, and the result, so far as recovery was concerned, was complete, that is to say, not one of them died. Of the thirty-nine, seven were cases of congenital, and thirty-two of acquired hernia; seven of the cases went out wearing a truss, as a matter of precaution, the other thirty-two left the

hospital without a truss, and have not since worn one. The average duration of the after-treatment in hospital was thirty-five days. The very great majority of them recovered without any suppuration, the wounds healing by first intention. The number of days of retention in the hospital includes a variable period, during which the patients were up and about before they were sent away, according as we thought they required such retention.

Well, that is a favourable record, *quoad* mortality, Gentlemen, and so far as it goes I think it completely justifies the performance of this operation in the majority of cases. I might quote other figures, by other surgeons, in some of which not quite so favourable a result was obtained. A German surgeon gives a mortality of 5 per cent.; a Swiss one of 3 per cent.; on the other hand, a Swedish surgeon points to 100 cases without any death at all, and an American operator to 199 cases without any death, these not, however, being operated on by himself, but by others. Of course, there may have been deaths which are not recorded, as is not infrequently the case; at all events, these facts go far to prove that the operation may be undertaken with a fair certainty of a successful issue.

Now, we may ask at once, what are the cases in which one would consider it desirable and proper to perform the operation? Well, first of all, we should say in any variety of those cases in which the hernia is of a congenital nature, and cannot be otherwise cured. I think, too, it is quite justifiable to perform the operation in any case where a person is debarred by the disease from admission to any of the public services. And then I think that a hernia which is exceedingly inconvenient to the patient, and gives him pain and much annoyance, is a fit one for operation. So, too, I think you will admit are those forms which cannot be controlled by a truss, or slip down from under the truss, which, pressing very firmly against the canal and ring, acts as a sort of strangulating medium. And then I think the irreducible, or only partially reducible hernia, subject as it is to become strangulated at any time, is a fit one for intervention in this way. In fact, speaking generally of the conditions which would indicate the performance of the operation, we may say that any form of the disease interfering materially with the comfort of the individual patient, or interfering with his power of earning his livelihood, is one fit for its performance, provided that the patient is not a person of extreme age, or the subject of

any serious senile change. Any visceral disease of importance may be a reason for depriving a patient of the advantages of the operation, or any pronounced evil habit, as alcoholism, or great obesity. I think the operation should be limited to the period of the activity and full capacity for work of man's life.

And now another question which may present itself to you, and which the patient himself will ask is—what prospect have I got of being completely cured by means of this operation, so that I shall never have any more trouble? The reply varies much; the percentages of relapse differ according to the accounts of different surgeons, from nothing at all to as much as 50 per cent. Those are the public statements of surgeons who write with authority on this subject, dependent on a wide experience. So that one must admit that there is a great difference of opinion on this point. I have thought it would be interesting for you to see and to judge for yourselves what the results are on the individual cases about which I have been speaking—my own cases, to wit—and I have, with the assistance of Mr. Stabb and the "Sister" of the Albert Ward, procured the attendance of a good number of patients for your inspection, some quite recently operated on, and others a considerable time ago. Some of them had very large tumours, some very small ones; some of them were men and some children, and they were operated on, some for one reason and some for another. They have not been selected in any way, and in most we were ignorant beforehand what results they would present. You will see for yourselves to what extent they have recovered, an extent which I myself consider, having inspected them just now in the ward, as exceedingly satisfactory. Many have said, speaking on this question of relapse, that it depends very largely on the nature of the operation performed. There are many varieties of operation advocated as desirable by different surgeons on which I do not purpose to enter into in detail. There are, speaking broadly, two classes of operation—one in which the sac is cut as near the internal ring as possible, and the stump pushed up towards the internal ring and within it, matters being then left as they are; that is to say, no attempt is made to bring together the walls of the inguinal canal. This is the method preferred, for instance, by one of the surgeons of this hospital, and also by a distinguished French surgeon, Lucas-Champonnière. Another method

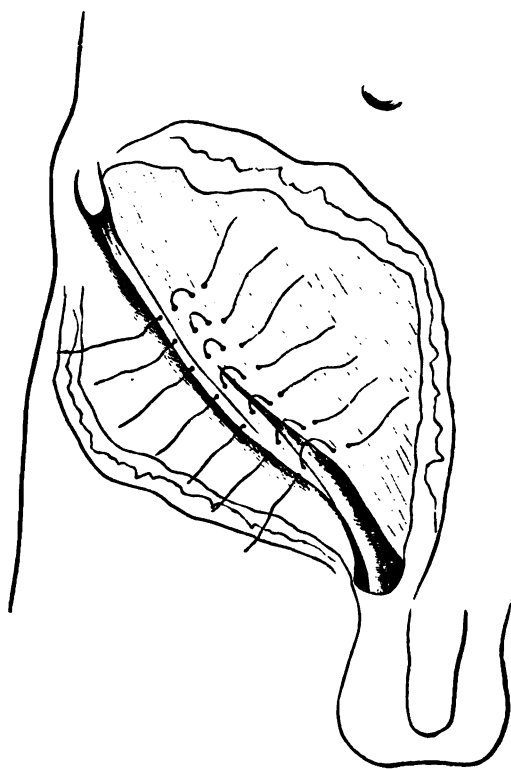
which has I think a greater number of followers, is the cutting away of the sac and leaving no part of it below the level of the internal ring; and in addition to that, closing as thoroughly as possible, bringing together as completely as may be, the walls of the inguinal canal; and for my part, I think this is a very desirable addition for the patient, that it adds much to the subsequent security of the individual against relapse, and furnishes in the end a better result. It may be done in many different ways, one surgeon having one way and one another; I have my own, which I am rather inclined to think a good one, as in many instances it seems to have led to very secure and lasting results, and I will presently tell you what that particular manner of operating is. Another method consists in drawing up the sac into the canal and leaving it there, or drawing it within the internal ring to act as a protecting buttress against the intra-abdominal pressure.

The plan I have usually followed is to completely separate the sac of the hernia from the surrounding parts, except, of course, in the case of congenital hernia, where you cannot do so, but, having made a separation of the upper part, should leave a portion of the sac below to form a tunica vaginalis: then having thoroughly separated the sac from its envelopments you may draw it down so considerably as to be able to apply a ligature round the neck of the sac at or near the level of the abdominal ring. I do not hesitate in some cases to cut open the lower part of the canal in order, when necessary, to draw down the sac still further and ligature it at a higher point. I do not myself think it is necessary to transfix the neck of the sac before ligature, or to pull it up by means of a ligature passed by a needle through the abdominal wall.

The stump of the sac can be readily pushed within the internal ring. I think that the disturbance of the parts caused by the pushing back of the stump of the sac entails a sufficient amount of irritation to cause adhesion of the folds of the peritoneal surfaces together.

When introducing the sutures for the purpose of approximating the walls of the inguinal canal, I always like to begin above the situation of the internal abdominal ring and I first introduce one or two sutures in that situation. Five or six sutures are usually required in all; care must be taken that the lowest one is so placed as to leave sufficient room for emergence of the cord.

The sutures are passed under the guidance of the forefinger of the left hand, on the tip of which the structures on each side of the canal are lifted up and steadied. The needle is introduced from without inwards half an inch from the margin of the canal on the inner side, and passed through all the layers of the abdominal wall except the peritoneum, and brought near to the centre of the anterior wall of the canal, threaded and withdrawn. This manœuvre is repeated at intervals of half or three-quarters of an inch until a sufficient number of sutures have been passed, including,



of course, the conjoint tendon. The needle is then similarly passed from the outer side so as to include Poupart's ligament and the tissues on the outer side of the canal, and the point where it emerges is near the middle line and margin of the external ring. The needle is now threaded with the end of the corresponding suture already introduced from the inner side, and the needle is then withdrawn, carrying the thread with it. The sutures when thus introduced present the appearance shown in the woodcut. It only now remains to draw them moderately tight so as not to

strangulate the enclosed tissue, and the result is that the walls of the canal are brought together and the weak anterior wall of the inguinal canal is replaced by a thick mass of tissue well calculated to resist any further protrusion. The external wound is closed in the ordinary way and dressings applied. You will be able to feel these buried sutures in many of the cases that will be brought in, and a hard resistant mass occupying the whole length of the inguinal canal. I need not mention the manner in which you should disinfect the wound.

One of the drawbacks of hospital practice is the difficulty with which cases are subsequently traced, and their final condition verified. I therefore consider myself fortunate in being able to show you the eighteen persons who have personally responded to the request to come here to-day. They are of all ages and vary much as to the antecedent period at which the operation was performed, but I feel considerable gratification at the most satisfactory results which these cases present. For the most part the region operated upon appears the strongest portion of the abdominal wall. The only ones which show any sign of weakness in the region of the inguinal canal are those (three in number) which have been wearing a truss.

Case 1. This man was operated on four months ago. The wound healed by first intention. He is 55 years of age. He was seven weeks in the hospital. The result is a very satisfactory one. He has not since worn a truss.

Case 2. This man was operated on at Christmas, 1891. The wound healed by first intention, and he has not since worn a truss. I consider this also a very satisfactory result.

Case 3. This man was operated on three weeks ago—not too long a time ago. You perceive that here as in the others, there is no impulse of any kind on coughing.

Case 4. This man was operated on four months ago for varicocele, and he was found next day to have an immense extravasation of blood into the scrotum and inguinal canal, and reaching up to the iliac spine. The hæmorrhage when I saw him appeared to be still going on, and the parts were extremely tense and swollen. I made an incision, laying open the inguinal canal and scrotum, and removed half a pound or three-quarters of a pound of clot. On now making search for the cause of the hæmorrhage no bleeding point could be found. After cleansing the parts thoroughly, the large

wound was packed with antiseptic gauze, the bleeding did not recur, and the wound finally healed up soundly by granulation. He had, however, as a result, a sort of inguinal hernia, and a large protrusion took place over the situation where the inguinal canal had been slit open; this was operated upon on Feb. 1st, after a similar manner to the ordinary cases, and, I think, you will admit—as he now coughs violently—with a most satisfactory result. As he strains you see that the part operated upon is, apparently, the strongest and least yielding part of the abdominal wall.

Case 5. This man is 50. He was operated on in August, 1892. He wears a truss, having very hard work to do, and he thinks he is more secure with the truss. There is a slight amount of thinning of the abdominal wall here, apparently from pressure by the pad of the truss, but no hernial protrusion. He had an immense scrotal tumour, and one was able to pass four fingers into the external inguinal ring. I thought at the time I could scarcely effect its closure. He is a farrier, and the subject of severe strain; he now works comfortably at his trade.

Case 6. This man was operated on seventeen months ago, and has not worn a truss at all. He was discharged in eight weeks, and the wound healed by first intention. No sign of recurrence.

Case 7. This man was operated on in October, 1892. The wound healed by first intention. The parts appear very sound. He has not worn any truss since the operation. He is a carman by trade.

Case 8. This man was operated on Christmas, 1891. The wound healed by first intention. There is no appearance of weakness. He has not worn a truss.

Case 9. This operation was performed two and a half years ago. The wound healed by first intention. Recovery quite satisfactory. He wears a truss.

Case 10. This man, whose condition in other respects is quite satisfactory, presents no sign of further rupture, wears a truss, and I should think the parts are somewhat weakened thereby. The wound healed by first intention.

Case 11. This man was operated on twelve months ago, and he too wears a truss. He had a hernia on this side descending into the scrotum. He is now sound and well.

Case 12. Operated on fifteen months ago. You can feel the ridge caused by the sutures here even at the end of this time.

Case 13. This boy's truss, horse shoe in shape, that he has been wearing, was put on for the purpose of pushing down his incompletely descended testicle. The testicle is all right now; it is down in the scrotum, and his hernia is quite cured.

Case 15. There is a little keloid formation in the scar in this case; but no sign of any reappearance of hernia, and the boy is quite well.

Here are four other cases, making eighteen in all, in which, as in the others, the result was verified as quite satisfactory, after periods varying from a few weeks up to nearly three years from the date of the operation.

I might have said in the course of my remarks that one could scarcely consider the cure a radical one if the patient has afterwards to wear a truss. No doubt when the nature of the work is very severe it is desirable that one should be worn, but it does not point to a very perfect cure. With regard to the wearing of a truss, I think if possible it ought not to be put on, in cases where it is thought desirable to wear one, for some weeks after the operation, as it presses on the newly-formed tissue and causes absorption of the cicatricial material.

CLINICAL NOTES.

(Specially reported for The Clinical Journal. Revised by the Author.)

WITH DR. HANDFIELD-JONES IN THE OBSTETRIC WARDS OF ST. MARY'S HOSPITAL.

Occlusion of the External Os.

This woman, æt. 40, came here a short time ago, stating that she had not menstruated for ten years. On vaginal examination no external os could be made out, the cervix felt smooth, globular, and about the size of a Tangerine orange. With a Ferguson's speculum one could not see any external os, but in the centre of the swelling corresponding to the cervix a thinned portion could be seen. Assuming that this was a case of occlusion of the external os, a puncture was made at this spot and gave vent to about 2 oz. of mucus, alkaline in reaction, and corresponding in all its characteristics to the cervical secretion. On attempting to pass a sound it was admitted about 1½ inches, but no internal os could be found.

The point, therefore, arises as to whether the internal os is occluded also, or whether there is a very small opening not detected by the sound.

On looking at and percussing the abdomen you can see and feel a tumour, corresponding to the uterus, somewhat enlarged. With such a history, one naturally thinks of retention of menses, but were this the case one would have expected more definite and characteristic symptoms.

The particular feature of this case, to which I wish to call your attention, is, however, this fluctuating swelling, tender on pressure, situated in the right iliac region, extending from the uterus externally to the anterior superior iliac spine, and down to Poupart's ligament. Above it seems continuous with the uterus, but below it is separated from the uterus by a groove.

The temperature, as shown by the chart, is hectic in character.

We have to think, now, as to the nature of this swelling. Is it due to cellulitis, to a distension of the tube on this side, or to a tumour of the broad ligament? We shall not discuss the question now, as I propose to make an exploratory incision later on.

The temperature is certainly suggestive of pent-up pus.

With reference to the pus being in the tube, it is worth noting that you may have a considerable pyo-salpinx with a normal temperature. I have seen a case in which the two tubes were removed, one containing four ounces and the other five ounces of pus, and yet the temperature had been always normal. I have seen other cases where the removed tube contained scarcely a teaspoonful of purulent fluid, and yet the temperature chart showed the hectic type. Probably in cases of pyo-salpinx the rise of temperature when present is due more to surrounding peritonitis than to the pus contained in the tube.

Hypertrophy of the Anterior Lip of the Cervix.

This woman, æt. 52, was admitted here with an enormously hypertrophied anterior lip of the cervix. The question arose as to whether the enlargement was simple or malignant in its nature. To settle the matter I excised a small piece of the hypertrophied part, and subjected it to microscopical examination. Nothing cancerous in the structure was found.

The case is instructive as showing how useful it is, when possible, to make use of this method of arriving at an accurate diagnosis, instead of waiting for events to develop. Had this excised tissue shown any signs of malignancy, the whole of the cervix would have been at once removed.

A Case of Hæmatoma.

This woman was admitted from the out-patient department with a swelling above Poupart's ligament on the left side, which, in conjunction with other symptoms and signs, led me to believe that it was a Hæmatoma. This opinion has been further confirmed by its rapid disappearance, owing to absorption. It is a clinical fact worth noting, that a tumour in this neighbourhood, which undergoes rapid absorption, is almost certain to be a hæmatoma. On examination per vaginam you find a hard swelling behind and to the left of the uterus; the external os is directed downwards and somewhat backwards, the cervix being displaced forwards against the pubes. In retroflexion of the gravid uterus the cervix is displaced anteriorly, but the external os looks upwards and forwards. It is important to remember this, as these two conditions often come before us, and a careful attention to the position and direction of the external os will help us considerably in making a differential diagnosis.

Whenever you are dealing with effusions in the neighbourhood of the uterus, whether of blood or lymph, which have reached the chronic stage, always take care to guard against constipation. To-day the patient's rectum is found to be loaded, so I shall order a saline purge to be taken every morning. A loaded rectum means a congested pelvic circulation, and if rapid absorption of effused products is to take place, the circulation in the pelvic blood vessels must be brisk and active.

Prolapse of the Ovary.

This woman fell downstairs about a year ago, and as a result of this fall experienced great pain in the lower abdomen, back, and left side. I was asked to see her, and found on abdominal examination that there was tenderness in the position of the broad ligament on either side. By vaginal examination on the left side I could feel a smooth roundish, somewhat elastic lump about the size of a chestnut, and very tender to the touch. This lump was fixed. I diagnosed it as a case of

inflamed prolapsed ovary. To-day it is not fixed, but it is about the same size.

Prolapse of the ovary is commonly the result of such an injury as occasioned it in this case. Whenever you find a small swelling behind, and to one side of the uterus, think of prolapsed ovary. It might be due to an old cellulitis, tubal disease, or to fibroids, but if so, there would not be the exquisite tenderness to touch characteristic of the prolapsed ovary. Other points to bear in mind in connection with prolapsed ovary are the smooth rounded outline, the sense of elasticity to the touch, and the situation somewhat or entirely behind the uterus. It is rare to find that the ovary has fallen directly down into the pouch of Douglas; as a rule it rests on a ledge of peritoneum just external to one or other sacro-uterine ligament. In addition to injury such as happened in this case, prolapse of the ovary may occur as the result of its own intrinsic weight causing it to fall, such as when it is the site of a tumour, or when enlarged by inflammation, or it may be dragged down by a retroflexed uterus.

Injury to the ovary sometimes happens at childbirth in this manner. When the placenta is being expressed, the ovary may be caught between the hand of the accoucheur and the pubes; moderate pressure may cause only some discomfort—some slight pain, as shown by the wincing of the patient. A more forcible pressure being made the patient faints, and the accoucheur finds her pulseless and collapsed from the shock. It is only by the process of exclusion that he arrives at the cause of the faintness and collapse.

I shall order the patient to have a blister applied over the region of tenderness, and to wear a glycerine-headed Hodges' pessary. This will gradually lift the ovary up, and if she take care of herself by avoiding very heavy work, and by taking proper rest at intervals during the day she will gradually get over her trouble.

Where this treatment fails, it may be necessary, if the symptoms are very severe, to remove the ovary; but in my own experience this has seldom been the case, and I should think that such an occasion but rarely arises.

Removal of Ovaries for Profuse Menorrhagia.

This woman suffered from a very profuse Menorrhagia, of so violent a nature that she became blanched, and her condition was critical. Nothing

could be found as regards the uterus to account for it; curetting was performed without any benefit. Ergot, Hamamelis, and other drugs were found useless; it was decided, therefore, to remove the ovaries. On exploring the abdomen, one ovary was found to be cystic, and removed; but no amelioration of her trouble resulted. After waiting some months, I removed the other, which had become cystic also. There has been no uterine hæmorrhage since, and I am in hopes that the treatment has therefore been successful, as it used to occur at least every three weeks.

Fungous Endometritis with Dysmenorrhœa.

This woman, æt. 22, married, but no children, was admitted, suffering from Menorrhagia and Dysmenorrhœa. She commenced to menstruate when 14 years of age, and has always been regular; the periods last about 8 days, the loss being profuse, and the pain, which is very severe, commences about the second day of each period, and lasts about $1\frac{1}{2}$ days. She was married in August last, and she states that, since marriage, the pain has been much worse. I propose now that she is anæsthetised to dilate the cervix.

A Sims' speculum is inserted to hold back the perinæum, the cervix is pulled down with a cervical hook, and then seized with the Vulsella forceps, care being taken that these are applied so as not to compress the cervical canal. Hegar's dilators are used up to No. 14.

When inserting a dilator, if you watch the way it passes the internal os, something can be learnt as to the condition of this part; thus, if you find that the dilator, after being firmly obstructed at this point, suddenly jumps through the obstruction we know that we have to deal with a case of spasm. If, however, the dilator passes through only slowly on steady pressure, the resistance to its onward passage persisting, we know that there is fibrosis of this part.

After dilating, the curette is used, and you may notice the small masses of granulation tissue brought away by the instrument. The use of the curette will be followed by the free application of Iodized Phenol.

The pain of menstruation here depends probably on the congested and unhealthy state of the lining membrane of the uterus. By improving the condition of the latter we shall cure both the menorrhagia and the dysmenorrhœa.

**WITH DR. GREEN IN THE
WARDS OF CHARING CROSS HOSPITAL,
MARCH 16th, 1893.**

A Case of Acute Effusion into the Left Pleura.

This patient was admitted suffering from an acute effusion into the left pleura. On admission, my house-physician removed by an aspirator one pint of clear fluid. He did so because the effusion was so considerable that urgent symptoms were present, owing to the way in which it interfered with both the heart's action and the respiration.

I have frequently pointed out to you here that a large pleural effusion may be a source of danger for both these reasons. In some cases the heart's action is so impeded that a little extra strain on it, such as occurs when the patient sits up, causes sudden death. Danger from interference with respiration rarely obtains if the opposite lung is healthy. Hence it is important in watching a case of acute pleural effusion to note carefully the heart's action and the respiration;—a rapid feeble pulse, or dyspnoea, being both signs of great import.

But for these two elements of danger, a pleural effusion might be regarded as useful, owing to the manner in which it keeps the parts at rest, and so favours recovery. On this account never be in a hurry to aspirate during the first ten days, and when you do so aspirate, do not attempt to remove all the fluid, but leave some behind to favour quiescence. The puncture you see has been made in the mid-axillary line—the fifth interspace. This is the best site, and remember, before proceeding to aspirate, always use a small exploring syringe, in order to confirm diagnosis.

In this case there has been no re-accumulation in the pleural cavity, on the contrary, and one concludes that there has been therefore, not only absorption, but that the walls of the blood-vessels have so far recovered that they no longer permit the liquor sanguinis to transude with abnormal facility.

Remember the persistence of a pleural effusion may be owing to two causes—non-absorption, and the continuance of leaking from the pleural vessels. Absorption is effected by means of the blood-vessels and lymphatics of the pleura, and it may be interfered with and prevented if the accumulation in the pleura is sufficiently large to obstruct the

circulation in these vessels. Hence in the *later* stages of a pleural effusion paracentesis may become necessary, in order to diminish intra-thoracic pressure, and thus to restore the circulation and promote absorption. We have, therefore, you see, two points to consider as regards tapping. In the early stage it is done to relieve dangerous interference with respiration, or with the heart's action; in the later stage to help the natural absorption of the fluid, by removing the pressure it is exerting on the lymphatics and vessels of the pleura. You may conclude that such pressure is being exerted when you find dulness extending so high as the second rib. For clinical purposes this is a useful guide. The displacement of the heart does not give us much information as to the amount of this pressure. Hence, if after the second week you find dulness extending so high as the second rib, it is usually wise to aspirate.

It is more than doubtful whether drugs have any influence in causing absorption of the effusion; all that you can do by their aid is to promote elimination by the skin and kidneys. This patient has been taking a simple saline mixture with Iodide of Potassium. The latter had, however, to be discontinued, on account of her great prostration, as evidenced by thrombosis of the left femoral vein.

As to the temperature, one must remember that more or less pyrexia is natural to the disease. If it does not persist for more than two or three weeks, it may not indicate anything abnormal. If it remains high, however, after this time one would think of pus in the pleura or the presence of tubercle. In this patient the temperature does persist, though it is three weeks since the commencement of the illness.

You should notice the physical signs: there is impaired resonance over the lower part of the chest; but in the axilla and over the upper part of the chest, there is no impairment of resonance, and no adventitious sounds can be detected in the upper lobes of either lung.

There is no cough or pain; she is weak and prostrate; she perspires a little at night, and so long as the pyrexia continues we shall be suspicious that there may be something further in the background.

There are two other points to notice about this case, one is the mode of onset. She tells us that it was acute, that she had to take to her bed on the second day. As a rule the effusion is absorbed more readily in the acute cases. It is in pleurisy

with insidious onset that effusion is most likely to be large and obstinate. Another fact of importance—her father died of phthisis. You will always remember the frequency with which pleurisy with effusion is tuberculous, those with insidious onset being more often so than the acute. In our patient there are no symptoms, or physical signs of lung disease, but we cannot at present exclude tubercle.

With regard to local applications, as a rule the effusion itself restrains the movement; this and the lying on the affected side relieve the pain; but in some cases more is required, and then strapping or the application of warm compresses will be a comfort to the patient. During the latter stages counter-irritation seems to favour absorption; I use the ordinary blistering fluid, and apply a small quantity of this to a surface of skin about the same size as a five-shilling piece. I do not use enough to cause a blister, however, and I am careful to apply it on a different site each time. As to the other points in the management of such a case, give a sufficiency of food, restricting the liquids, keep your patient quiet and free from excitement; watch the temperature; re-examine the chest frequently, and carefully watch for the dyspnoea and rapid weak pulse we have spoken of.

Hæmoptysis.

This man, 40 years of age, was admitted March 14th, suffering from Hæmoptysis. He has brought up blood in small quantities frequently during the past month. The first question is, where does the blood come from? There is not much difficulty in answering it in this case, for here is some blood recently brought up. It is of a bright red colour, is aerated and frothy, and can with such an appearance have only come from the lung. With only hearsay evidence as to the character of the blood it would not be so easy to state its source. Here I would remind you of two points: if the sputa are stained with blood for some little time after the hæmorrhage it is evidence in favour of the blood having come from the lung; on the other hand, if the patient tells you that the blood-spitting occurs only with early morning cough, it is probably of pharyngeal origin. In this patient, as the hæmorrhage is still taking place, it will not be wise to disturb him by a thorough physical examination. I shall content myself, therefore, with examining the front of the chest, looking for signs of cardiac

disease, especially that of the mitral valve, and for signs of phthisis.

His heart is healthy.

There is a little dulness under the left clavicle, and some deficiency of breathing—quite sufficient to be sure of disease of upper lobe of lung. On inquiring into his history he tells us that he has been liable to cough for the last seven or eight years; during the last few months it has been worse and attended with expectoration; he has lost flesh during this time, and his temperature was above normal on admission. With these facts one is justified in regarding the hæmoptysis as symptomatic of phthisis. Further evidence will be sought for by examining his sputa for the bacillus of tubercle. This is by no means necessary in most cases, except as additional scientific evidence, for in the great majority of cases of phthisis the clinical history, the symptoms, and the physical signs present are ample evidence as to the nature of the disease. It is in the doubtful cases, and where the physical signs of pulmonary tuberculosis are masked by bronchitis, emphysema, pleurisy, etc., that an examination of sputum may be the only means of diagnosis.

A point worthy of notice is that he has been a heavy beer drinker. Clinical experience shows that pulmonary hæmorrhage is much more likely to occur in alcoholic subjects.

You will remember that hæmorrhage occurring in the course of phthisis is very liable to be followed by an increase of the tuberculous disease, either at the same or in other districts of the lung. This is probably due to fresh infection by means of the inhaled blood, containing as it does the tubercle bacilli. The existence of pyrexia after the hæmoptysis is the most important evidence we have of this increased implication of the lung. The presence of crepitant rales is of much less value, as these are often due simply to the blood in the terminal bronchioles.

In this patient the temperature has become normal, and we hope, therefore, that there is no spreading of the disease. But though progressive tubercular disease is usually accompanied by pyrexia, such is not always the case, and you must be prepared to meet with exceptions now and then.

As to treatment of this hæmorrhage, where it is very slight nothing special need be done; if more severe there are several points to attend to. In the first place, remember that hæmostatic drugs are the least valuable of the means at our disposal

in attempting to arrest the bleeding. Do not give Ergot because hæmoptysis; keep in view the means by which the bleeding is *naturally* arrested, endeavour to lower the blood-pressure by absolute rest, a restricted dietary, the avoidance of alcohol, by keeping the surface of the body and the extremities warm, and thus by flushing the skin diminishing blood-pressure in internal organs. But whilst you keep the surface warm, see that your patient breathes sufficiently cool air. Prevent constipation—a purgative is of much value in most cases.

As to the application of ice to the chest, it is difficult to draw any conclusion from the evidence as to its usefulness. The hæmorrhage naturally stops, and consequently the remedy last used is apt to get the credit; I am inclined to doubt its efficacy. It chills a certain area of the surface, and is thus probably harmful. Can it favourably influence bleeding vessels in deep-seated lungs? An ice-bag, if it is a source of comfort to the patient, will help to keep him quiet, and so it may be of use. I therefore, under such circumstances, should use it, but if it was uncomfortable, and so a source of disturbance, should not do so.

As to drugs, where the bleeding is slight, direct hæmostatics are usually contra-indicated. I give Dilute Phosphoric Acid, as it quenches the thirst, and may possibly be of some use for the hæmoptysis; this, and some ice to suck will, with the other general treatment, be all that is necessary, except where there is troublesome cough.

It is undoubtedly of importance to check the cough in such a case, as it prevents the necessary quiescence. In treating the cough of ordinary phthisis it is important to give the linctus or other cough remedies only during the night, so as to ensure a sufficient amount of sleep; but when the cough is accompanied by hæmoptysis, it is well to give the linctus in the day-time as well. This cough depends on two factors, the irritability of the back of the pharynx, and the condition of the lung. Our linctus* contains sedatives with mucilage, which keeps them in contact with the pharyngeal mucous membrane, and so, relieving the irritability of one of the sites, checks the cough.

This patient is following out all the treatment with relief to himself.

* R. Liq. Morph. Hyd.
Sp. Chloroform.
Vin. Ipecac. āā ṡiv
Mucil. Acaciæ ṡas
Aquam ad 5j

In the treatment of those cases of profuse hæmoptysis which are almost invariably of aneurysmal origin, and which so often jeopardise the life of the patient, attention to these principles is even more important. Here you will find Morphia administered hypodermically the most reliable remedy. It is rational treatment—it quiets the patient and depresses the circulation, and so favours the natural process of arrest. Ergot and Gallic Acid are, I think, of very doubtful utility.

A Case of Chronic Bright's Disease.

This man, æt. 45 years, was admitted February 11th, with cardiac dropsy, renal disease, and bronchitis.

It is not always easy in a case of heart failure and dropsy to recognise at first the renal element. The presence of albumen in the urine is, of itself, of little value. But in this patient the diminished quantity, the pale colour, and a Sp. gr. 1012, could leave no doubt about the kidneys, even had there not been obvious confirmatory evidence in the large left heart and thickened arteries. The urine presents to the naked eye a marked contrast to the high-coloured urine of high Sp. gr., depositing urates met with as result of cardiac failure from other causes.

When admitted there were three elements of danger: (1) The heart failure and its consequences; (2) The renal inadequacy; (3) The bronchitis.

As regards the danger from the kidneys, the urine was of low specific gravity and deficient in quantity, a state of things which shows that there was retention of some of the products of nitrogenous waste. Under these circumstances urgent symptoms, due to uræmic poisoning, might, at any time, have supervened.

The main indication for treatment then was to restore, so far as possible, the heart and circulation, and thus increase the amount of urine, and, at the same time, eliminate the products of nitrogenous waste.

In such a case it is all-important to remember that the circulation is interfered with in two ways, by the failure of the left ventricle, and by an abnormal resistance in the peripheral circulation.

Consequently, to relieve the patient you must not only increase the force of the left ventricle, but you must diminish the resistance ahead. To do this we give Digitalis to strengthen cardiac force and Nitro-glycerine to diminish peripheral circula-

tory resistance. You will meet with many cases where Digitalis alone does not act in a satisfactory manner, and yet, when Nitro-glycerine is added, the results are astonishing. In some cases Iodide of Potassium serves to lower the peripheral resistance, but it is very inferior to the Nitro-glycerine. Nitro-glycerine alone quickens the heart, but this is not the case when it is combined with Digitalis.

This man has been taking :—

R. Liq. Nitro-glycerini (1 per cent.) ℥j
Tinct. Digitalis ℥x
Aquam. ad 3j
M. ter die sum.

You may cautiously increase the Nitro-glycerine to ℥ij, or even ℥iij, if necessary.

His urine is now normal in quantity, and the dropsy is considerably diminished. An important feature in his case is, however, that though the urine is now normal in quantity, the specific gravity is only 1014; that is to say, there is still a considerable diminution in the amount of solids secreted. In most cases of the granular form of chronic Bright's disease, there is an increase of the amount of urine, and the diminished specific gravity going with this is mainly due to the excess of fluid and not to diminished amount of solids. In the subacute attacks which so often occur as the result of chills, etc., in those suffering from chronic disease, this is not the case.

In dealing with a case of chronic Bright's disease, it is an important point rather to estimate the condition of the patient than to endeavour to classify him as one or other of the varieties of the disease. When the case is distinctly typical of one or other variety, it is easy to recognize this, and classify it accordingly; but there is no sharp line of demarcation between the different varieties, and you may often find it difficult to classify.

Take this case for example, the important point to recognize, from the clinical evidence of diminished secretion of solid matter, is that his kidneys are markedly inadequate. In most cases of the granular form of chronic Bright's disease the kidney function is less impaired, and the symptoms are more exclusively cardio-vascular. In this case there is this condition also, as evidenced by the result of treatment; he was first put on Digitalis and Nitro-glycerine; on February 20th this was discontinued, and Iodide of Potassium was substituted for the Nitro-glycerine; the symptoms of

cardiac failure, however, returned, so on March 2nd he was again put on Nitro-glycerine, with the result that he has much improved.

You should remember that an increased blood-pressure, owing to circulatory obstruction, is a necessary condition of this disease. Thickening of the vessel walls is one of the causes of this. Provided that the patient is living as he ought to do as regards clothing, diet, regulation of bowels, and other things, you need not attempt to reduce increased blood-pressure, except when you think it has become excessive, owing to the patient relaxing his precautions.

The prognosis varies; in a large number of cases where one finds only a trace of albumen, the duration of life may be but little shortened. In this case the prognosis is bad; there is very inadequate secretion of solids, a failing heart needing constant treatment, and he has albuminuric retinitis.

Before leaving him there is one more point to which I would call your attention; though only 45 years of age, his arteries are unusually atheromatous. He says he has had syphilis. This disease, as you know, is an important factor in the etiology of atheroma. Long-continued strain, such as obtains in chronic Bright's disease and aortic incompetence, causes atheroma more readily in the syphilitic than in the non-syphilitic patient.

THERAPEUTICAL NOTES.

Salipyrine gives Dr. Taherlet more decisive results than Antipyrin or the Salicylates, and has no disadvantages. It seems to have its chief use in neuralgias.—(*Med. Rec.*)

Subacute Cystitis.—Desnos dissolves about six per cent. of Salol in Retinol, and finds that when from one to eight drachms are used the drug remains in the bladder even after several acts of urination, and gives speedy relief.—(*Med. Rec.*)

Bromidism may be prevented, Féré claims, by an intestinal antiseptic being combined with the Bromide Salt, as in the following:

R. Potassii Bromid. ... 5ss
Beta Naphthol... ... ʒj
Sodii Salicylate ... ʒss.

for each dose, which is considered curative as well as preventive.

THE CLINICAL JOURNAL.

WEDNESDAY, APRIL 5, 1893.

A CLINICAL LECTURE

ON

SCARLET FEVER.

Delivered at King's College Hospital, March 16th, 1893,

By A. B. DUFFIN, M.D., F.R.C.P.,

Physician to the Hospital.

GENTLEMEN,—You are aware of the unfortunate circumstance which has given rise to this lecture, viz., an outbreak of Scarlet Fever in the wards of our hospital. This outbreak, most unfortunate for the institution, has, however, not been without its value to us as students of medicine, for it has enabled us to make a very useful survey of the ordinary course of the disease, and also to see some of its complications. I therefore take the opportunity of addressing you on the subject, the more so as it is one not often dealt with in a clinical lecture. The extent of the subject is, however, greater than can be treated in one lecture, and I therefore shall confine what I have to say to-day to the fever proper, leaving the later complications to some other occasion.

And first as to the incubation period. It is a short one, in fact we do not know any disease with one so limited. By incubation period I understand the interval that elapses between the time a person comes in contact with the disease and the time of its first manifestation. It may be as short as twenty-four hours, and it may run to five or six days. The first person to observe an extremely short period was Professor Trousseau, who detected the rash twenty-four hours after exposure. The average on what you have heard me speak of as the "Murchison" emigrant ship where the disease involved altogether forty cases was found to be thirty-six hours, but I think eight of the cases took the disease within twenty-four hours after exposure. The incident of the "Murchison" emigrant ship illustrates another point, viz., how readily the disease adheres to clothing. It was after some packages, which had been lying in the hold for about six weeks, was brought up on deck that the accident happened. I can quote a case from my own experience. A family had gone through a very severe attack of scarlet fever, but

one of the number had not mixed with the rest during the outbreak, namely, a little boy at the Hertford establishment of the Blue-coat School. The last traces of the disease had passed away when the mother asked if she might visit her boy at the school. To make quite sure, she took a bath immediately before starting, and asked the boy to come out into the grounds, where they might picnic together under the trees. But unfortunately she did another thing; she did not want the boy to notice her mourning dress, so she got out some other clothes, and these unfortunately had been in the room where some of the children had been ill. Twenty-four hours afterwards that boy developed scarlet fever. What is more, he communicated it to a large number of the children in the school.

Next, as to the period of invasion;—by this I mean the period during which a patient is ill, but shows nothing on the skin,—this is generally also very short, sometimes so short as to be quite inappreciable, we might in fact often say, the rash and the illness come on simultaneously, but usually in carefully observed cases the difference of a few hours may be noticed. In most cases the period is one of about twenty-four hours; and this is often a difficult time for diagnosis, you feel that the patient has something hanging over him, but cannot decide what it is. We shall, however, find that this invasion period may be greatly retarded.

The first point about the disease itself, which I shall take up is *the rash*. This is first seen, not on the face as with most rashes, but about the groins, the axillæ, the folds of the neck, and the loins. It is usually throughout the illness more marked on the trunk than on the face. If you catch a typical case early, you will see that the rash comes out as a fine punctiform outbreak confined to the skin papillæ. The minute red raised points of which it consists, and which are very small acuminate papules, are closely packed together; they become united at the end of a few hours by an erythematous base. The redness is usually a full, deep red, but the depth of the tint varies considerably, and in the milder cases may not go beyond a rosy tint. In the severer examples, this rash may extend in a few hours over the whole of the body, which then assumes the tint, and also

the peculiar roughened appearance of a boiled lobster. The eruption on the face is, for the most part, less intense and more patchy in character, fitting into the folds of the skin in irregular tracts and islets, very much, as has been suggested, as if the face had been slapped with the hand. Also in the milder instances, we may see irregular islets of skin on the trunk itself, which escape the full force of the rash, and present a slightly tawny appearance. Into these patches the edges of the rash imperceptibly fade, so that you can draw no line between the spots where the rash begins, and the faint tawny appearance ends. Such are usually seen over the front of the thorax and the abdomen; but in stout children, or where the bedclothes have pressed on the body, you will see also between the folds of the skin yellowish marks, as if the child had been whipped,—what the French call the *vergeté* appearance. When the rash is compressed by the finger, the redness vanishes, and is replaced by this same yellowish-white appearance, a tint I consider of some slight diagnostic value. When the rash is fully out, the hands and feet will usually be found slightly swollen, and their movements somewhat impaired in consequence. In the severer forms we may find not only the papular and erythematous character of the rash present, but also, and more especially on the groins and axillæ, vesication crowning the papules, and sometimes these vesicles will run on to form extremely minute pustules. The duration of the rash is very variable; usually it lasts from three to four days, but I have known it to be fully out, and to become dusky as late as the tenth day. On the other hand, its duration may be so evanescent, that it is overlooked altogether, and it is only by the sequelæ that it is known that the patient has had scarlet fever at all. The rash may occasionally, I think, be absent altogether; this is apt to occur among the attendants, people who, in infancy, suffered from the disease, but who, notwithstanding, get sore throats on a second exposure, and in whom I have twice distinctly seen albuminuria occur, that is to say, they had the constitutional evidences of the disease without the rash.

Differing totally from this, is the *retarded evolution* of the rash, a very formidable and anxious complication. In these cases we are confronted with the most alarming febrile symptoms, lasting three or four days, and in one case observed by Trousseau, as much as eight days. During this

time the patient is in very great danger. The temperature runs up to hyper-pyrexial heights; the pulse is of uncountable velocity, vomiting is frequent, and sometimes also diarrhœa sets in. The urine, if passed at all, may be found to contain blood, but above all, the most marked nervous symptoms co-exist, headache, photophobia, active, violent delirium; or, on the other hand, an extremely slow cerebral pulse, retracted head, clenched jaw, torpor, semi-coma. The patient may actually die in this state without the rash coming out at all. I will quote a very terrible example of this state of things occurring in a puerperal woman, and I may tell you that the very worst people to have scarlet fever are just those recovering from a confinement. She had been confined about ten days. Her eldest child was in the house suffering from scarlatina at the time. I was asked to go in the middle of the night to see this lady, who had developed the most alarming symptoms during the previous twenty-four hours. I found her lying in a typhoid, semi-comatose state with convulsive jerking of the limbs; pulse uncountable, temperature up to 108° . The lochia, milk, and urine were all completely suppressed. You cannot, in fact, imagine a more alarming condition of things, and we felt that unless something energetic was done she could not live to see the morning. We at once plunged her into a cold bath, out of which we brought her at a temperature of 102° , though in half an hour it was again 103° , and inclined to go up still further. We then gave her half a grain of Pilocarpin subcutaneously, as she was unable to swallow at the time, and she was left in the wet pack until the morning. The temperature was then 100° , and she had secreted some bloody urine, which was drawn off with a catheter. She ultimately recovered completely without any trace of albuminuria remaining, and without any bad symptoms, after a severe but quite regular course of the disease.

Supposing the rash evolves properly, its extent and intensity are usually good measures of the severity of the attack, and the other symptoms will be found as a rule to correspond with it, so that, *pari passu*, it may be said, Much rash, a smart course. I have already said I have seen the rash still out on the tenth day of illness; on that day it turned dusky in colour, the temperature rose to hyper-pyrexial heights— 105° or upwards—and typhoid nervous symptoms set in. This patient,

like the other, was bathed with the best effects; consciousness returned whilst in the bath, the rash brightened, and the next day all cause of anxiety was over. Such an example may be considered as a normal but very severe instance of scarlet fever.

In the truly *malignant* cases the evolution of the rash may be extremely imperfect, or may fail altogether. The rash is from the first very patchy and dusky. The throat symptoms are usually very severe, and the nervous symptoms are simply terrible. Startings of the limbs, with great agitation and restlessness, sleeplessness, and often convulsions occur. All sedatives seem useless in the matter, and the patient passes rapidly into a state of typhoid delirium with carphology, and may die within twenty-four hours. But for surrounding circumstances it may be impossible even to make the diagnosis of scarlet fever at all.

You will at once see how these cases of retarded rash, with head symptoms and the malignant forms suggest acute meningitis. Have we any data to help us in distinguishing them? The very intensity of the onset is one point; the high temperature is another: meningitis, as you know, may exist with a temperature of 101° or 102° , so that this fact may help us; suppression of urine is also a very valuable and usually a very steady indication; and, lastly, if we look for it, we shall generally find some trace at any rate of a throat affection, though, I repeat, this requires looking for.

We are thus brought away from the skin to the *throat* itself. Now if the throat affection is seen at its earliest stage the palate and the tonsils will be found covered with fine intensely red points exactly like those seen on the skin, and in a difficult case, such as I have just described, such an appearance may have great diagnostic value. Usually the tonsils, palate, and pharynx are of a full, deep red, possibly even violetty in tint, and with much swelling. The tonsils may touch. Over the tonsils a greyish pultaceous secretion may be found to form, and this may be readily detached in stringy-like masses. It is not adherent, nor is it shreddy, like a diphtheritic membrane. If, however, the pultaceous matter be long retained in contact with the tonsils, it may undergo decomposition, cause the breath to become offensive, and become the source of secondary absorption. In the severer cases, owing to this tonsillar trouble, you will find that food often returns by the nose; swallowing, in fact, may be practically impossible. Now, while we have so much affection of the fauces, it is a remark-

able thing that the larynx usually escapes. I say "usually," for I have seen one instance of a child who died of oedema glottidis before the trachea could be opened.

The *lymphatics* in the neck are always more or less affected. If they are discrete to the touch, defined and movable, the products taken into them will absorb kindly; but if they are tied down, and their outline blurred by oedema, then absorption from the throat has become serious, and you will be lucky if you escape a diffuse and extensive abscess about the neck, in itself a sufficient cause of death. Thus you see these glands are of great importance.

Now, compared with the typical scarlet fever throat I have described to you, there is a modification known as the diphtheritic form of throat. Usually just as the disease is passing off, you will find that there is a fresh outbreak of fever; suddenly up goes your thermometer a degree or two, and then it will be found that the glands at the angle of the jaw are enlarging rapidly, and a foetid sanious flow is observed from the nostrils. The tonsils will be found covered with a tough, dirty brown membrane; not the good white membrane you get in ordinary diphtheria. Often this is quite black from effused blood, and very offensive. Thus we get what our forefathers would have called the sloughing throat of scarlet fever. The wiry pulse gives way to the soft, dicrotous type, low delirium will also set in, and in fact all the alarming head symptoms that go along with this condition. The temperature, after the first rapid upshoot, collapses within twenty-four hours, and will now descend to sub-normal limits, the patient at the same time becoming cold and blue, and he rapidly dies of syncope from heart failure. This is always a grave complication, and usually a fatal one, though cases of recovery have undoubtedly taken place. Examples such as these have suggested to some minds the possibility that scarlet fever and diphtheria may be modifications of the same disease, and to some this is still a matter *sub judice*. I will quote you a case of Sir George Johnson's, which goes some way to prove the contrary. Two brothers were exposed at the same time to scarlet fever, and, as it turned out, one of them to diphtheria as well. They got the scarlet fever simultaneously, and after being only a few hours in contact they were separated. One boy had his scarlet fever *with* diphtheria, and fortunately recovered well; the other boy went through his

scarlet fever away from home without any diphtheritic complications. When it was thought the whole thing was over, he was allowed to return to his brother, and he took from him pure diphtheria, which went through its regular course.

We now pass away from the throat, and come to the *tongue*. This organ presents three important stages: in the first you will see a coated tongue with red edges, but by the third or fourth day the coat is lost, and we get what is called the strawberry tongue—a bright red tongue with fungiform papillæ very prominent. After the eighth day the papilliform prominences have flattened down and the tongue becomes smooth and very red, and is totally denuded of its epithelium, which, during desquamation, slowly reforms.

The *pulse* is usually small, firm, wiry, and extremely rapid, rapid sometimes out of all proportion to the temperature, so that you find 140 and even considerably upwards a by no means uncommon observation. Usually it is quite regular, but, of course, if typhoid or diphtheritic symptoms intervene, then its rhythm will become seriously disturbed.

The *temperature* runs high, compared with that of other fevers. Even in a moderate case temperature of 103 is quite to be expected; but it may run to hyper-pyrexial heights. When this happens we have the most alarming nervous symptoms associated with it, delirium, carphology, jactitation, coma. Another nervous sign which we sometimes see at the ushering in of the disease is convulsions, which may occur with failure of the evolution of the rash. They have a very different significance in scarlet fever from what they have in measles. Measles may begin with convulsions and run its normal course, but in scarlet fever convulsions always indicate a very severe form of the disease. Nervous dyspnoea is another dangerous complication chiefly seen in the later stages. It was observed in the case of the puerperal woman to whom I referred just now. I have so far mentioned the effects of a very high temperature, but I am also inclined to believe in the possibility of an almost if not quite a-pyretic scarlet fever. My attention was first called to it by the case of a lady I saw at Hampstead. She was about 30 years of age, and had every symptom of scarlet fever about her, except that her temperature was perfectly normal; her doctor asked, "can it possibly be a case of scarlet fever without pyrexia?" About a year and a half after I saw a case in this hospital in which

there was no pyrexia, but we subsequently discovered that at the onset there had been a temperature of 99. Struck by these two cases I asked our house-physician to write down to one of the superintendents of the asylum hospitals to ask if they had ever seen anything of the kind, and the answer was that once or twice in a year they got an a-pyretic patient, but on inquiring into the case they always found there was a day or two of slight pyrexia at the onset.

This, then, concludes what I have to say about temperature. I have already mentioned *vomiting* as a formidable nervous sign; but it is a sign which may also occur without nervous complications. This was evidenced in the case of one of our nurses a good many years ago. In a severe attack of vomiting this poor woman brought up a complete cast of her stomach which was perfectly recognisable as such. Hæmorrhage ensued, and she died in a few hours. This is a unique case as far as my experience goes.

Then we may also, but, fortunately, very rarely meet with a form which is malignantly hæmorrhagic in character from the first; this form again is associated with all the thermometric and nervous signs to which I have referred. These cases never recover.

I now pass on to consider the *kidney*. Some years ago, in a very valuable paper in the Med. Chir. Transactions, vol. 69, Dr. Thompson pointed out the frequent existence of blood and albumen in the urine during the eruptive stage of scarlet fever. This the observation of our own cases thoroughly confirms. In three out of the seven cases now under observation, decided albuminuria has been recognised. In Dr. Curnow's case with the severe head symptoms, albumen was found on the fourth morning, and continued till the ninth day, when it vanished. In one of the nurses under my care it was found on the third day, and disappeared on the sixth day. I will quote you a statistical summary of Dr. Thompson's very valuable observations. They extended over 180 cases; of these, 112 exhibited some trace of albumen or blood at some time in the course of the disease; of these 112, 40 had what Dr. Thompson calls "initial" albuminuria, as in the three cases I have just quoted; of these 40, 9 ran on later to albuminuria of the late stage, without a break at all; in 21, that is, in more than half the cases the albuminuria totally disappeared, but reappeared at a variable interval during desquamation, so that it

was lost and again recurred; in 10, or exactly one quarter of the cases, it disappeared for good before desquamation fairly set in. He found albumen as early as the third day, and this generally disappeared between the fifth and ninth days. I think these are most important observations showing that albuminuria, as a temporary phenomenon in scarlet fever, is more common than we supposed before that paper was written.

In contrast with this is late albuminuria, which we understand very much better, and which may come on at any time between the ninth and forty-eighth day of the disease. It usually occurs before the fifteenth day, and is very rare after the twentieth, but we may have it as late as seven weeks after. Dr. Thompson found some traces in no less than 72 out of his 180 cases, but in the majority of these it was small and evanescent, lasting only one to four days. General dropsy occurred in 24, or one-eighth of the total number of cases, and this came on in the face of careful dieting and careful hygiene in every way.

The little I have to say about *desquamation* resolves itself into the very variable time it may occupy; it may be over in twenty days, or may extend as long as seventy days, or almost double the usual standard length of six weeks. It should be carefully watched, and be thorough and complete everywhere before the patient is trusted about at all. *Defervescence* may be interfered with by several serious accidents, that mark what I may call the intermediate period of the disease. A very important one is extensive suppuration about the glands of the neck, dissecting the neck up freely, so that you can see the muscles and arteries beating in the wound. I have seen a case in which you could pass a catheter between the mouth and the sac of such an abscess after death.

Then there are the ear troubles. Suppuration of the middle ear, resulting in the destruction of the membrana tympani, is far from uncommon. This may further lead on to cerebral abscess, or suppurative meningitis. *A propos* of these ear troubles, I may remind you that most of our patients with scarlet fever are young children. Many of them cannot talk and explain themselves, but from their behaviour are evidently in pain. When the temperature goes up perhaps half a degree without any palpable reason, and the child is evidently suffering, pray remember that it may be an ear trouble, look at the membrana tympani, and if you find it bulged or discoloured, be sure to

puncture early, the earlier the better. You may save both it and the brain.

Another important series of complications occurs quite early in the desquamative stage, and that is the *rheumatic*. It is by no means uncommon. We have one example upstairs. It chiefly affects the small joints, but it may become generalised, and the large joints may be involved. It is usually associated with more swelling than we see in ordinary rheumatic fever. Peri- and endo-carditis are just as apt to occur here as in regular acute rheumatism, and, therefore, if you ever have occasion to ask a patient if he has had rheumatic fever and he denies it, the next question you should ask is, "have you had scarlet fever?" As a confirmation of the true rheumatic character of these attacks, I may say that I have seen one instance of a little French girl who had chorea associated with the outbreak of the cardiac trouble. There is, however, this important difference that there is a great tendency after scarlet fever for the joint affected to suppurate; I have never seen this, but the late Sir William Fergusson told me he had opened such joints on several occasions.

Then, too, *suppurations* will occur in the later days of scarlet fever in the form of purulent inflammation of the serous cavities. Pleurisy is especially apt to occur. This is very generally suppurative from the outset, and therefore you have to look sharply after it, and diagnose the empyema before it has wrought too much mischief. The commonest danger, however, of the desquamatus stage is *renal dropsy*, which I merely mention and pass on.

As to the *diagnosis* of the disease. The differentiation from *Measles* is the first point to which I will call your attention. Usually this presents no difficulty whatever, but in some cases the measles rash is much diffused, more like an erythema, the papules do not stand out well, and here difficulty may arise. The order of the distribution of the rash beginning from above downwards may help you. Also the backs of the hands will show the discrete measles papules when you fail to see them anywhere else, and you do not get the red swollen hand you notice in scarlet fever. Another important diagnostic point is presented by the prodromal rash of *Variola*.* This consists of an erythema of very full redness, smooth, with slight infiltration of the skin, but distributed in a re-

* "Cases of Roseola Variolosa." By A. B. Duffin, M.D. "Clinical Society's Transactions," vol. iv. p. 117.

markable manner. The most common place to find this variolous erythema is in a kind of apron around the abdomen, or distributed over symmetrically-placed portions of skin on the extremities.

Usually the redness, which is a very full one, will be sharply defined in its outlines, and on the second or third day will become hæmorrhagic—points which will probably save us in diagnosis. I have also seen this prodromal rash of variola involve the extensor surfaces of both legs and arms, and I have seen another form in which the erythema formed a kind of diver's helmet over the head, involving the shoulders and back. Then, in addition to this, you may have a more diffuse and generalised roseola, which is very puzzling. In such cases the positive evidence in favour of small-pox will be of value. The roseola will be preceded or accompanied by backache, pain, and tenderness in the epigastrium, and usually vomiting. If we wait for a day or two, the true variolous papules will appear on the forehead. A very important point to bear in mind is that the roseola of small-pox never puts on the punctiform appearance I have mentioned as characteristic of the true scarlet fever rash. I quite recently saw a roseolous rash with sore throat and a temperature of 101° appear on the fifth day after *re-vaccination* in an adult. The fine papular character was quite absent, and the redness only rosy. The vaccine spots were perfectly healthy. I had the opportunity of hearing the subsequent story of the case, and I found that the next day the temperature was 99° , and the roseola had almost vanished.

Another important difficulty would be *German measles*. If you see it for the first time on the second or third day of the rash it may present peculiar difficulties. As you know, the rash then loses its discrete papular character, and coalesces to a uniform red exanthem, and it is usually also associated with sore throat. But a careful study of the outlying margins of the diffuse redness will generally reveal more or less of the remains of the discrete papular element. Also the redness is, for the most part, out of all proportion to the amount of fever or sore throat; the throat is less swollen, and the glands are not involved; moreover, the pulse has not the remarkable quickness or hardness of the true pulse of scarlet fever; so that if you are careful you may be able to steer your way; still these cases seen first at the diffuse stage of the redness, may give rise to serious hesitation.

The most difficult cases, and also the most

anxious, are those which set in with high fever, severe head symptoms, and no rash, or only a very imperfect mottling to start with. It may be almost impossible to discriminate these cases from cases of meningitis till the rash comes out. The co-existence of a case of scarlet fever in the house would, however, put us on our guard.

At what period is scarlet fever most contagious? It is usually, and correctly, said, "during the desquamative stage," but it may undoubtedly be caught quite early, and our own recent cases illustrate that. The woman who brought the disease in—a case of lupus—who had been allowed to visit her friends for a few hours, was attended only for twenty-four hours after the first symptoms by one of our nurses, and this nurse, during that short time, took the disease. There could be no question of desquamation here. With one exception all our cases developed within four days of the first example manifesting itself. Scarlet fever thus is contagious at all periods of its existence.

In the last place I pass on to *treatment*. In simple cases our duty is prophylactic rather than therapeutic, and divides itself into two parts, our duty (*a*) to the patient, and (*b*) to his surroundings.

Talking first of (*a*), the patient ought to be kept in bed (however slight his symptoms) in a well-ventilated room at a moderate temperature not exceeding 60° . It is a mistake to keep him in too warm a room. He should be fed on diluted milk, or if a weak subject, on a little diluted beef-tea, though I prefer the milk. A little *Liquor Ammonizæ Acetatis* may be given, to help the evolution of the rash. If the throat is comparatively slightly affected, a gargle of Chlorate of Potash, or Condyl's fluid, or Boracic Acid, or even honey and borax will be sufficient to clear off the pultaceous matter, a sharp look-out being kept on the glands at the angle of the jaw. Warm sponging will be found to help the evolution of the rash.

With regard to (*b*), you must restrict the use of the room to the person attending the patient. The nurse must have the food for both the patient and herself brought to the door. A cloth with some antiseptic should be suspended over the neighbourhood of the door, so as to exclude the exchange of material particles, while allowing a certain amount of circulation of air to go through the room. Of course, if the people are in a position to do it, it would be better if the house were vacated entirely, and left to the sick person

and his immediate attendants, or the patient removed to a special hospital; subsequently, the room must be disinfected. The bedclothes are passed through a very strong solution of Condyl's fluid and immediately washed out, and afterwards put in an oven. As regards walls, it is a desirable thing if the paper can be sacrificed, and if not, sulphur should be burned in the rooms with the doors and windows shut up for a couple of days. I know of a remarkable instance, of paper having been left on the walls of a room in which there had been scarlet fever; fresh paper had been put on and on without the original paper being removed. A new family came into the house, and took down all these layers of paper, thus setting loose the scarlet fever poison, and causing an outbreak in the family.

Then the special complications of the disease have to be attended to, and I put first hyper-pyrexia and the nervous symptoms associated with defective evolution of the rash. I have great faith in the treatment by a cold bath below 70° , or in a bad case 65° , or even lower, energetically applied. You will find that a great difficulty exists with the friends of the patients: they will say it is monstrous, but you must be prepared to do your duty nevertheless; there is no class of cases requiring more firmness and decision in a medical man, than these bad cases of hyper-pyrexial fever.

I have, personally, no great belief in the other forms of anti-pyretics in scarlet fever. It is true that I have tried them but little, still, that little has not impressed me in their favour; as for typhoid, of course, that is a different matter. Where the temperature does not run so high as to warrant a cold bath, cold sponging is very grateful indeed to the patient, and helps to brighten the rash; or the ice-bag or Leiter's tubes may be applied to the head; or the regular wet pack may be employed, and usually brings out free perspiration. At the same time you may help the evolution of the rash by means of a diaphoretic: Pilocarpin subcutaneously, Ipecacuanha, and Liquor Ammonii Acetatis will be found useful in this respect.

Bad throats are a great difficulty. I believe in the use of Perchloride of Mercury solution, one grain to the ounce to be brushed on twice or oftener daily; of course, it smarts the throat a good deal, but it helps to clear it very much, and we know its antiseptic powers. Another remedy is to wipe over the throat with a strong solution of

Condy, and yet another is to generate Sulphurous Acid over the throat itself; this is done by means of dusting the throat with Sulphite—not Sulphate, mind—of Soda, and then spraying with a one per cent. solution of Hydrochloric Acid. This is a very good way of cleansing these throats.

All these methods, however, require the mouth to be open and the attendant to have free access to the throat; but with children a serious difficulty arises: they cannot be taught to gargle, and if they see the nurse coming with an apparatus of any kind, they will kick and fight, and won't open their mouths. The only way is to get a pewter syringe, to charge it with whatever you intend to use, and pass it behind the back teeth of the child. They have not so many molars as we have, and this makes it easier to get the syringe down and spray the throat.

As to the glands, if their affection is moderate, I think a little cotton wool tied round them is sufficient. If they are more severe I believe in locally fomenting them; but if very severe you cannot prevent an abscess, and then surgery must come to your aid.

Then with regard to the vomiting. Is it of a nervous form or of stomachic origin? If the former, we cannot do much for it locally. If truly gastric, ice is a splendid sedative; and I also believe in counter-irritation in the form of mustard applied to the epigastrium.

The next class of symptoms are the early renal symptoms. Usually they do not require attending to at all, but in severe hyper-pyrexial cases, with suppression of urine, you will find a very valuable adjunct to your treatment to be wet cupping over the loin and counter-irritation by mustard.

As to the ear troubles, I have already mentioned the importance of early diagnosis. You should use a speculum to get a good look at the membrana tympani. This you will find dull and bulged forward, and you may even see pus peering through. Puncture the membrane at once. Wash the tympanum out with an antiseptic like Perchloride solution.

Then a word about the rheumatism. Its treatment is exactly the same as in rheumatic fever with salicylates, alkalies, and quinine given under the same conditions as in the ordinary cases.

Lastly, about the suppurations, the commonest of which is pleurisy. It is very important to open very early, as soon, in fact, as you have diagnosed your empyema. In children you will often find

that simple aspiration, possibly repeated once or twice, will be all that is necessary to clear the thorax. Of course you know that in adults we very seldom escape so easily, but sometimes in children you will be lucky enough to save making a permanent opening in the thorax. I remember a single aspiration being sufficient in one of Dr. Playfair's cases upstairs.

A CLINICAL LECTURE

ON

SOME SOLID ABDOMINAL TUMOURS OF PELVIC ORIGIN.

Delivered at St. George's Hospital, March 22nd, 1893,

By W. R. DAKIN, M.D., B.S.,

Obstetric Physician to the Hospital.

GENTLEMEN,—I propose to-day to take as the subject of my lecture three cases of solid abdominal tumour, all of pelvic origin, which have occurred in the wards since the beginning of the year; cases which illustrate very different clinical types. Two of them are instances of fibroid tumour of the uterus, and one of malignant growth. The post-mortem of the last is going on at this moment. I should have postponed lecturing on this case till I had heard the result, but this is the last clinical lecture I shall give this winter session.

These three patients have each had a tumour which reached about the level of the umbilicus. The best way of dealing with the cases so as to learn something from them, is to first consider what varieties of solid abdominal tumour reaching this level and arising from pelvic organs, may occur in the usual run of practice. They are included in the following list:—

1. *Fibroids of the uterus*, interstitial, sub-mucous, or sub-peritoneal. The most characteristic symptom of the first two kinds is hæmorrhage. The last is, apart from accidents, devoid of any symptoms but those due to its bulk.

2. Malignant disease of the body of the uterus.

3. Peri- or para-metritis, simple; or rarely, tubercular. These affections are characterised by more or less acuteness, that is, they appear more or less suddenly, and usually cause constitutional disturbance as fever. They tend to disappear under treat-

ment, and are as a rule, fixed, except where they exist as "remote" peri- or para-metritis.

4. *Hæmatocele*. This kind of tumour has in the main the characters of the last-mentioned, and is always fixed.

5. Semi-solid or solid ovarian tumours. These include ordinary cystic adenoma with much solid matter; dermoids; and malignant tumours of the ovary; innocent, quite solid ovarian tumours (*myomata*) being extremely rare. Such tumours are usually movable to start with, but may become fixed later.

6. Rarer examples of solid tumours of this size are extra-uterine gestation, tumours of pelvic bones, and molar (*hydatidiform*) pregnancy. I may add to this list phantom tumours and collections of *fæces*, though these are easily distinguishable.

I will now read over the main facts connected with the three cases, and refer to the reasons for the diagnosis which was made, and for the treatment adopted in each instance. We will deal first with the case that died yesterday, a case of abdominal carcinoma.

Case 1. She was aged 53, and had been married thirty years. She complained of a tumour and pain in the abdomen. The former she had only noticed for four months; the latter she had had for a year. The pain in the abdomen was of a bearing-down nature. Four months ago a lump appeared in the left side, which has gradually increased in size. For three weeks she has had a vaginal discharge, yellow in colour, and streaked with blood. She has had two children, the youngest of whom is 17. There has been nothing abnormal about her menstrual condition; her periods ceased ten years ago. Lately she has lost a great deal of flesh, and that is an important point. She suffered great pain before admission, but since admission she has been much easier. Her physical signs were as follows: she had a large central mass in the abdomen, rising to nine inches above the pubes, and extending laterally to the line of the iliac spines. The mass generally was smooth, perhaps being more convex in some places than others; moving freely in the abdomen without pain. There was no evidence of ascites. The consistence of the tumour was uniformly hard, and very slightly elastic. Another important point was that it was found on vaginal examination that the anterior lip of the cervix was much thickened, the surface feeling brittle, and bleeding readily. This roughened and brittle surface extended out for a quarter to half an inch

on to the vaginal walls. The mass described in the abdomen communicates impulses to some extent, but not absolutely freely to the cervix, which was rather fixed. The pelvic roof was resistant, the resistance being mostly due to the superjacent mass. There was free hæmorrhage on vaginal examination.

Going over the main points on which the diagnosis was founded:

She was 53 years of age, and it may be taken as a general rule that any patient, after the menopause, with a solid tumour in the abdomen, is with great probability suffering from malignant disease, provided that you can be certain that it has begun since the menopause. Of course, she may have had a fibroid before then, and the fibroid may remain, not diminishing very much in size; and sometimes a sub-peritoneal fibroid, which has been comparatively quiescent during the earlier part of the patient's life, may begin growing after the menopause; but, as a general rule, the presence of such a tumour in a patient of this kind will strongly suggest carcinoma. In this case there was no suggestion of a previous fibroid. As a rule, you find ascites in connection with malignant disease involving the peritoneum, and there was, in fact, some abdominal fluid in this case, but not enough to make it readily obvious. Other most important points were, the pain; that the tumour had only taken four months to grow; that she had wasted considerably in that short time; and, in addition to these facts, that she had carcinoma of the portio and the vagina. It was clear that what she was suffering from was not a fibroid, because her menstrual history all her life had been quite normal, and the menopause had come on quite naturally at 43. It was neither peri- nor para-metritis, for the tumour had steadily but rapidly grown, and she was beyond the age at which these inflammatory conditions occur except from traumatic causes. Hæmatocele was out of the question, as all large hæmatocèles are the result of ruptured, tubal, or interstitial gestation; and against the last two possibilities was the fact that the mass was movable. The rarer conditions in (6) are readily excluded, as the only possible one of them is a tumour arising from the pelvic bones, and the mobility of the mass negatives this. We have (2) or (4) left to consider. A sound was not passed because of the rottenness of the cervix, so the length of the uterine cavity was not ascertained, and the relation of the uterus to the

mass was not accurately made out. The diagnosis, therefore, was malignant disease of the uterus or ovaries.

In the presence of the growth in the cervix, spreading over the vagina to the extent it did, an operation would have been useless as regards saving the patient's life, as the cancer in this situation could not have been completely got rid of. She was, therefore, left alone.

The abdominal mass rapidly increased in size and became harder, and the abdomen felt almost as if plaster of Paris had been poured into it. This hardness was absent over the epigastrium and inner part of the right hypochondriac region, and here the stomach was recognisable as a prominent, tympanitic, elastic organ.

Supposing, now, that this patient had had no cancer of the cervix and vagina, it would have been the right course to have made an exploratory incision into the abdomen, and to have seen if one could remove the tumour, inasmuch as in malignant disease of the ovaries, if the peritoneum over the growth is not involved, the prognosis is very favourable after removal, and there was at first sufficient mobility in this case to suggest that the peritoneum was free. She began to vomit incessantly, and was unable to take nourishment. She was then fed by the rectum. During this period there was no trouble with her bowels, although her intestines seemed to be imbedded in the general peritoneal cancer. The principal part of her treatment was the administration of Morphia. When patients are dying of carcinoma they can have as much Morphia as they require to keep them out of pain; it is about all you can do for them.*

Case 2. The next is the case of a single girl, aged 23, who complained of swelling in the abdomen and menorrhagia for four months. She was quite well until four months ago, when she noticed that her menstruation was becoming profuse, the first of these four periods lasting eight days, and the last three eleven days each, her normal period being only three to five days. At that time also she observed that her abdomen began to swell, and

* At the end of the lecture the uterus was brought in, having just been removed from the body. It was found to be entirely converted into a mass of carcinoma, increased to double its normal size, but having retained its normal shape to a great extent. The growth had spread from this centre throughout the pelvis and abdomen, no portion of the peritoneum being free except some small area over the liver. She died about six weeks after admission.

she said it was no larger on admission than when she first noticed it. She had not lost flesh, and had suffered no pain. For two months the right ankle and leg had been swollen. She had a slight white vaginal discharge. The patient was anæmic. As regards her physical signs, there was an abdominal tumour reaching one and a half inches above the umbilicus; roughly speaking, the mass was the shape of a pregnant uterus. The tumour was almost completely fixed. On the left side of its summit there was a lump the size of a tangerine orange. The tumour was quite elastic, but firm, giving a sensation of fluid in a very thick-walled cyst. I may say at once that it turned out not to be fluid but solid, although up to the moment before the wire of the *serre-nœud* was put round it was uncertain whether it did not contain fluid of some sort. The cervix was drawn up out of the pelvis, and to the level of the pelvic brim, the portio being obliterated, and the external os looking backwards and downwards. This drawing up of the cervix without great change in its general direction, is an almost certain indication of tumour of the uterus itself. It may occur also when you have a large cyst, very intimately connected with the uterus. The cyst, as it rises out of the pelvis, drags the uterus up with it. The sound in this case passed without difficulty $4\frac{1}{2}$ inches into the mass. You could feel a more or less distinct ridge proceeding across the front of the tumour from the projection on the left side. This was correctly taken to be the right tube and round ligament. Although we may not accept her evidence as to the size of the tumour when she first noticed it, it must have grown very rapidly—in six or seven months at the outside, as her menstruation is only said to have been more profuse for four months.

The diagnostic points about this case are that she had menorrhagia, which is a characteristic of fibroids; she had a smooth, solid tumour, the limits of which were quite easily definable through the abdomen, and which corresponded as regards date of commencement with the menorrhagia. She was not losing flesh at all, but was only becoming pale from the amount of blood she lost. The sound practically proved that the tumour was one of the uterus, and as already mentioned, the dragging up of the cervix was all in favour of this too. The alternative to fibroid was pregnancy, with a hydatidiform mole. Her regular menstrual periods, and the absence of any sign of pregnancy were against this. As a very remote

possibility, that of a thick-walled intra-ligamentous cyst was entertained. This might have lifted and elongated the uterus. Against it was the rapidity of growth, which did not allow enough time to admit of the possibility of such a considerable distortion of the uterus.

As regards treatment, she was a young woman, and likely to do well under operation; and she was becoming very anæmic from her menorrhagia. While she was under observation, and while we were endeavouring to complete the diagnosis by observing whether the tumour contracted under Ergot, it was growing rapidly, and began to cause much pain owing to pressure on the pelvis, and further œdema of her right leg.

The operation of removal of the appendages was rejected, as it would not have at once, if at all, reduced the size of the growth; and, moreover, would have been impracticable owing to the size of the growth. I have already, on many occasions, given you my views on the uselessness of electrical treatment in such tumours as this. So I decided to remove her uterus by abdominal hysterectomy.

The only difficulty there was during the operation was on account of the broad ligaments, which owing to the tight fit of the uterus in the pelvis prevented the mass from being raised sufficiently to enable the wire of the *serre-nœud* to be passed round it. The peritoneum covering the mass was then peeled off to some extent, the fibroid freed correspondingly, and the wire easily applied.

She did very well, and is now in good health.

Case 3. The third case is a simple one. The patient was 38 years of age—intermediate between the other two. She had been a widow for six months, and complained of a large lump which came down in the front passage and prevented her passing water. She had noticed this for two years. The disease, therefore, was of a chronic nature, and all she complained of was some mechanical interference with micturition. This lump came down on any exertion, such as walking or standing for a long time, but went back when she was lying down. There was a little pain of a bearing-down nature.

She had had two children, both born at the seventh month, and flooded after the birth of each. She had a miscarriage nine years ago. Menstruation began when she was fifteen, and was regular at intervals of three weeks. She always passed clots, often larger than half-a-crown. There had been no changes in her menstrual type; she

had begun by being more profuse than most people, and had gone on with no variation ever since. As regards the physical signs, there was a central elastic tumour five inches above the pubes and two inches below the umbilicus. It was perfectly dull all over from just below its upper margin, and rather indefinite in outline. The central part was very prominent, the other parts retreating rapidly from the surface; the cervix was to the right of the middle line, and pointed upward to the top of the pubes. The body of the uterus could be traced backwards to Douglas's pouch, almost fixed by the mass above, which dipped into the brim and could there be felt. The tumour lifted somewhat easily from the pelvis. A vigorous impulse from above was felt in the cervix, but not a slight impulse. The sound passed, with the concavity backwards and downwards, $3\frac{1}{2}$ inches; there was a little blood on its withdrawal. The cervix was fixed by the mass above it, and there was no pain on moving it. Passing a finger under the cervix, and pressing backwards and downwards with the other hand on the abdominal mass, it was observed that they were closely connected. Lateral movement caused very slight movement of cervix. The mass on bi-manual examination was quite hard, and of fibroid-like consistence. On passing the finger in front of the cervix, it was arrested at the angle formed by the cervix and the mass above it.

The diagnosis was one of quiescent, almost sub-peritoneal fibroid of the anterior uterine wall. She had had floodings after labour, and had been treated here in 1884 for it, so that the disease was probably quite a chronic one. Nothing but fibroids behave in this way. Neither hæmatocele nor inflammatory masses would have remained in the same state all that time, nor would any ovarian tumour. As she stands long or exerts any abdominal pressure, the mass is forced down into the pelvis, and corresponds more and more as it descends to the axis of the pelvic outlet. The retroverted uterus, apart from the growth in its anterior wall, measures $3\frac{1}{2}$ inches, and more or less fills up the cavity of the pelvis, and any further descent and forward movement will be seen by the diagram to press on the urethra. The whole treatment consisted in elevating her uterus; a ring pessary was inserted, and directly this was done she felt quite comfortable, and had no more trouble in micturition or with descent of the uterus.

Here then are three cases of solid abdominal tumour, the first one of malignant disease ending

in the death of the patient; the second, a case of myoma of the uterus with menorrhagia, treated by complete removal; and the third, one of myoma with no symptoms except those of a mechanical nature, which were relieved by mechanical means.

The cases explain themselves, and afford good examples of the different pathological conditions that may underlie external physical signs which are almost identical; and of the method of diagnosis in such cases, and the different lines of treatment suitable to each class of case.

A CLINICAL LECTURE

ON

NEURARTHROSIS.

Delivered at St. Bartholomew's Hospital,

By ALFRED WILLETT, F.R.C.S.,

Surgeon to the Hospital.

GENTLEMEN,—I have under my care in Pitcairn Ward a patient with arthritis of a peculiar type, and in whom there are also indications of degenerative changes in the spinal cord. I have had the patient brought to this theatre, that I may the better present the features of his case to you.

This man, J. A., æt. 38, who for the past twenty years has been a sailor, and for ten years before that a miner, must have started to work at a very early age. He came under my care on the 22nd February last. He has, as you may see, very obvious disease of the left knee; the right knee, left hip, and right elbow joints are also affected, but much less noticeably. Then on the front of the upper third of right leg, connected with the tibia, and occupying the space lying between this bone and the fibula, there is a breaking-down gumma.

The facts of his case are pretty much as follow: up to twelve months ago he was quite well; eleven months ago he noticed pains in the left knee which were of a shooting character, but later on there has been a constant aching in the front part of the knee, and although worse at night, it has not kept him awake; nine months ago this knee began to swell up, the swelling appearing first above the patella, but subsequently involving the whole of the joint. Then, ten months ago, there was felt similar pains in the left hip, and the right knee also became painful, the pain being on the inner side of the joint, and intermittent in character, several days of immunity occurring. Up

to two months ago the patient could walk with the aid of a stick, but since then the left leg has failed him completely, and he has had to take to bed. He states that he has been a heavy drinker for the past twenty years, drinking a couple of gallons of beer or a bottle of whiskey per diem, and always, as he says, being able to stand a good drop of drink without feeling any ill effects from it. Twelve years ago he had syphilis (chancre, followed by a rash on the body), and eleven years ago rheumatic fever; three years ago he says he was ill in bed from Bright's disease after a severe wetting. His family history is unimportant.

You will observe that he shows traces of having been a healthy, strong, and well-developed man. He formerly weighed eleven stone, but has lost weight considerably, and now only scales eight stone; his pulse is 80, regular, and of fair volume, the arteries are neither atheromatous nor tortuous. His temperature is quite normal, his bowels are always costive, but he never has had either incontinence or retention of feces. Micturition is natural, urine acid, with one-sixth albumen, but no sugar. He has experienced loss of memory of late, and does not hear so well as he did. His pupils act to light and accommodation; both discs are slightly blurred over their edges; the retinal vessels are dilated, but not tortuous, and there is no evidence of retinal or choroidal disease. The regions of the maculae appear healthy. There is nothing abnormal in his vision; his appetite is good. Now, as to the local conditions, he has in the first place the breaking-down gumma, already described. Next you observe that the skin over the affected knee-joints is quite natural, but they are rather hotter than the body temperature, the left being the hotter. Then there is, especially in the case of the left thigh, very marked muscular atrophy; one seems to come down at once upon the bone, as if the extensor muscles over it were merely a thin layer of fibrous tissue. There is much tenderness in the knees. The skin seeming to be almost as sensitive as the deeper structures. I draw your attention to this point because, as you will see, the patient moves his legs tolerably readily and both flexes and extends them without apparent pain. Movements in all of the affected joints is very good. There is no indication of backward and outward displacement in the knees. There is marked tenderness over the area of the attachment of the capsular ligament to tibia, femur, and patella. Both knees are swollen; however, it is obvious

that the left is very much more swollen than the right. The left knee is, at its greatest circumference, $15\frac{1}{2}$ as against $13\frac{1}{2}$ on the right side. Four inches above the patella it is $11\frac{1}{2}$ as against 11 on the right side. The swelling in the left knee is soft, and gives almost the sensation of fluid, but the bones are felt to rub on each other. There is a bony thickening around the joints, one feels irregular masses of bone, and on passing the finger round one finds it is irregularly nodulated. The patella is very considerably enlarged; you may judge of that by noting the breadth of bone lying between my finger and thumb, it is at least half as broad again as the normal bone.

As to reflexes. Knee-jerk is exaggerated, and ankle clonus is present in both limbs, the cremasteric reflex is strongly marked. When told, with his eyes shut, to touch his nose or his right ear, or the middle of his forehead with his finger, he does so with accuracy. Sensibility is entirely unaltered, the muscles of the lower limbs react well to the battery when applied to either nerve or muscle. A good deal of the same kind of thickening exists about his right elbow and left hip-joints, and one can feel similar irregular masses of bone round the lines of this articulation.

Judging by the facts and history shown in this patient, the diagnosis would seem to lie between osteo-arthritis and an arthropathy, induced by degenerative change in some part of the spinal cord, terminating possibly later on as Charcot's disease.

Then it may be asked in what respect do these two diseases—osteo-arthritis and neurarthrosis differ? This can best be made clear by putting their marked symptoms in contrast. In osteo-arthritis the patient is as a rule fairly healthy, and well nourished; in neurarthrosis he is nearly always cachectic and wasted. In osteo-arthritis the onset of the symptoms is gradual and slowly progressive; in neurarthrosis the onset may be sometimes rapid, and the changes from month to month pronounced. In osteo-arthritis the patient will usually complain of what one may describe as "chronic rheumatism," pains settling chiefly in one joint, and very generally occurring after comparatively slight injury, with increasing stiffness and loss of movement; whereas, in neurarthrosis, the disease comes on with sub-acute severity and with much pain, whilst the gross changes in the articulation assume a very definite type. In osteo-arthritis the previous history is usually one of slight injury, and perhaps exposure to cold or damp; in neurarthrosis the

prominent feature in the history is usually syphilis or alcoholism and hard living, or, as shown in this patient, both combined. In osteo-arthritis, pain, especially at night, is a prominent symptom, whereas, in neurarthrosis, pain, except at the onset, or during exacerbations of the disease is not an important feature. In osteo-arthritis muscular wasting is not a very marked symptom, but in neurarthrosis it is always very rapid and very marked. In osteo-arthritis, with respect to the apparent joint changes, much thickening of the capsule and soft structures round the joint may be usually noted; in neurarthrosis the disease is often associated with rapid stretching and distension of the synovial membrane, and yielding of the ligaments, so that sometimes dislocation has occurred quite suddenly. In osteo-arthritis, movements of the affected joints are greatly limited and very painful; in neurarthrosis the movements of the joints are usually fairly free and not painful, and yet slight pressure is very painful. In the next place coming to the articular changes. In osteo-arthritis there may be some amount of eburnation, but usually associated with it evidences of sclerosis. The specimen I hold in my hand is a very fair example of the changes seen in osteo-arthritis. You observe the head of the bone is dense and large, and there is very considerable lipping around the attachment of the capsule. In neurarthrosis, on the other hand, atrophy and eburnation are much more marked.

The joint affection is not, of course, so extremely different in character in the two diseases; if it were there would be little to connect them. One feature in which they seem similar is the actual joint change, but even here there are the common differences fairly characteristic and diagnostic. In osteo-arthritis, as I have already pointed out, there is an all-round increase; the bone is dense, and we should speak of it as a rather over-developed bone; the articular surfaces become roughened by osteophytic deposit, well-marked around the margins of the attachments of the ligaments. In a neurarthrotic joint the bone is commonly lighter, and there is some evidence of rarificative change, the bone becoming more porous, and there is often actual loss of bone from erosion in the articular surfaces; they become worn down and may be deeply grooved, and so there is an actual loss of substance. This bone feels singularly light, and you see how the cancellous tissue has undergone absorption; but there is in some cases

much new bone produced around the margin of the articular surfaces, widening them. I have seen a knee-joint converted into almost a ball-and-socket joint, by a large osteophytic formation on the tibia receiving the lower end of the femur. Then, also, there is in these neurarthrotic cases great heaping up of bone around the margin, and very often these are not absolutely attached; in certain instances they commence as free bony growths, which later become welded to one or other of the bones of the joint. In osteo-arthritis the reflexes are normal, whereas, in neurarthrosis they may be either lost, as in tabes, or exaggerated, or lessened, and there is always optic neuritis present to a greater or less extent. When one compares these two groups of symptoms with those present in the patient before us, there can be no doubt as to which form of disease he is suffering from. His case does not agree with a normal case of osteo-arthritis, whereas it fairly well falls within the class of neurarthrotic disease.

Now, if this be a case of neurarthrosis, and if the joint disease is induced by some change in the spinal cord, can it be localised, and what is the prognosis? This man at present has no definite tabetic signs, and so there is no sclerosis in the posterior column; he has, I suspect, what is called disseminated sclerosis of the cord in an early stage, patches of lymph, with other recent inflammatory changes in both the grey and white tissue, irregularly scattered. As to prognosis, I am, on the whole, fairly hopeful that some improvement will follow the adoption of treatment; it is true the patient has one-sixth of albumen, and he has run down rapidly, but if syphilis is at the root of his disorder, as I suspect it is, then with suitable drugs—Iodide of Potassium, Mercury, and cod-liver oil—and the liberal diet of the hospital, I hope that his general condition will soon improve. Then for special treatment of the joint affection. I have already directed the application of Mercury and Belladonna ointment, and I am intending to have the limbs massaged and regularly electrified. I think these are not cases in which it is advisable, if it can be avoided, to put the joint up in a fixed position: certainly this man's joints are not painful, and he has good movement, which, of course, it is desirable to preserve. What I aim at is to restore muscular development where it has undergone atrophy, trusting to the influence of the drugs indicated and moderate pressure to remove swelling of the affected joints.

ORIGINAL ARTICLE.

SOME CASES OF PELVIC CELLULITIS, WITH REMARKS ON DIAGNOSIS AND TREATMENT.

By ALFRED SHEEN, M.D.

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ON June 3rd, a patient, æt. 32, is confined of her sixth child; vertex presentation, entire process normal. On the 5th, after a feeling of chilliness, the temperature rises to 102.4° , and in the evening to 103.4° . On the 7th she was put on 3 grains of Quinine every four hours, and this was stopped on the 11th. The temperature during these five days did not exceed 100° . Up to this time, and for a few days subsequently, nothing locally could be found to account for the rise of temperature. From the 14th to the 26th the temperature ranged between 104° and normal, and subsequently it remained normal. From the 14th to the 23rd she had Quinine as before, and locally frequent warm douches. A trained nurse was obtained for her from the 16th. On the 17th I again made a careful local examination, and found a slight swelling and feeling of resistance behind and to the right side of the os, uterus freely movable, not enlarged, no pain on examination. On the 25th there was profuse perspiration, after which there was no further pyrexia until the 4th of the next month, when it went up once to 103° without any very obvious cause. About eight weeks after her confinement she went away for a change. Not until six years afterwards did she have another child.

Another patient, aged 28, was confined of her fourth child before my arrival on the scene, on the 26th of the month. On the 29th she shivered and complained of headache and pains all over; the vaginal discharge had a foul smell, and the temperature went up to 103° . Hourly vaginal douches with Condy's fluid and hot water were ordered. On the 30th inst. a.m. temperature 102.8° ; at 6 p.m., I was urgently summoned, as she had had a violent rigor, and I found her perspiring and looking frightened, P. 176, T. 105° . A vaginal examination revealed nothing to account for this. She had Tr. Aconite in minim doses every hour, and next day (the 1st of the

month), after a good night, her temperature at 8.30 a.m. was normal. A trained nurse was engaged. In the evening the temperature went up to 104.8° , and vaginal examination revealed hardness and swelling in the right broad ligament, with very slight tenderness on firm pressure. On the 2nd and 3rd, the highest temperature was 103° ; on the 4th, 102° , and in two days more it became normal, and remained so. 15 grain doses of Antipyrin were used on two or three occasions, with apparently good effect in bringing down the temperature; but on the 3rd, she was put on 3 grain doses of Quinine every four hours, and this was continued for seven days. On the 15th she felt quite well, but there was still some swelling in the broad ligament, and she was not allowed to get up till the 22nd, nearly a month after confinement.

In a third case a patient, æt. 19, was confined of her first child, and I saw her for the first time six weeks after, when she had a good deal of hardness in left groin, with pain on pressure, which extended down the thigh. Her legs were drawn up, and temperature was 99.4° . She was kept in bed; her temperature varied between 100° and 102° . The treatment was mainly Quinine and Opium. She did not progress satisfactorily, and as formation of matter was obvious, and she could not have proper care and attention at home, she was subsequently transferred to the infirmary, where an abscess was opened in the groin. She was very ill, and remained in the infirmary for some months, being subsequently discharged quite well.

I have here very briefly reported three cases of pelvic cellulitis, which may serve as an introduction to the remarks which follow:

It is obvious that one cannot speak of pelvic cellulitis to the exclusion of pelvic peritonitis. What is the meaning of these terms? In the words of Fordyce Barker, "Pelvic peritonitis is an inflammation of the serous coverings of the uterus or its appendages; pelvic cellulitis is an inflammation of the cellular connective tissue around the uterus, the ovaries, and broad ligaments."

As to *diagnosis*. Is a differential diagnosis necessary? is it desirable? Whatever the answers to these questions may be, it is quite true that, in the early stages at all events, such diagnosis is impossible. Dr. Barker says, "it is impossible to base a differential diagnosis on the symptoms, as in the early stages they are nearly identical in the two diseases," and I quite agree with him; but in the progress of a case some points of difference may

be observed, and it is important to note them because, in either case, the disease *may* proceed to suppuration, and when this occurs the prognosis is much more serious in pelvic peritonitis than in cellulitis.

If *acute pain* is a prominent symptom in the early stage, especially if accompanied by an *anxious expression*, I should think more of pelvic peritonitis than cellulitis. I attach more importance to the presence or absence of these symptoms than to anything else. There is also, in the progress of the case, one sign which points in the same direction, and this is *fixation of the uterus* with displacement.

Peritonitis tends to the formation of adhesions—not so cellulitis. In the after progress of a case, when adhesions have formed, and the patient is about again, she may continue more or less an invalid for some time, suffering from pelvic pains, and being unable to stand long or walk any distance, and if she becomes pregnant again she is liable to abort.

I will now pass on to state what appear to me to be the more prominent and characteristic features of pelvic cellulitis. A woman, some few days after, may be, a perfectly normal labour, has a rise of temperature, preceded by a slight feeling of coldness or a distinct and severe rigor, and a careful examination at first fails to find a cause for this. The temperature, instead of coming down again in a few days, as it would do in an ordinary case of simple puerperal pyrexia, keeps up more or less in spite of any treatment, and then, on further examination, there is found a more or less defined feeling of resistance at the roof of the vagina, to one side or behind the uterus, and in some or most cases, on bi-manual examination, there is a distinct feeling of tumefaction, but *no pain is complained of*, and but very slight tenderness may be elicited on deep pressure. The patient's *face is calm*. There is *no look of illness* beyond what might be produced by a simple state of pyrexia, and the patient expresses herself as *not feeling ill*. Time goes on, the temperature fluctuates, and there is no appearance of the patient being better or worse. The friends get anxious at the uncertain progress of the case, and it is in these cases, more than any others in my experience, where a second opinion is asked for. The patient expresses surprise at being kept in bed, not being conscious of serious illness.

Many of these points are well illustrated in the cases I have here recorded. In the first case, from beginning to end, the patient never com-

plained of anything and never looked ill, yet there was occasional coldness of hands and feet, mostly detected by a well-trained nurse, and never complained of by the patient, and on each occasion there was a rise of temperature. The second case differed somewhat in its initial stage, and in the fact, which is unusual in such cases, of the temperature becoming normal in nine days. On the third day after her confinement she shivered, and her temperature went up to 103° , and on the next evening she had a very severe *rigor*, which much alarmed her friends, and the temperature went up to 105° ; yet a vaginal examination failed, at that time, to detect anything to account for such an apparently serious condition. There was in this case, too, from beginning to end, never any look of severe illness; the face was always calm, and there was never any pain or next to none.

The third case I have recorded is an illustration of pelvic cellulitis neglected in its early stages, from the patient not recognising the necessity for medical advice when most needed, and so proceeding to suppuration and a long and tedious illness.

I pass over, very briefly, the *causes* of cellulitis—epidemic influence, imprudences, septic infection, etc. Dr. Cullingworth says that "Pelvic cellulitis, when a primary disease, is always septic and spreads directly outwards from the body or the cervix uteri through the parenchyma." Whether this be true or not, I am not satisfied in any case without a diligent search for some immediate exciting cause, and my experience teaches me that this may usually be found in some error of nursing whereby the patient has *been chilled*.

Now as to *treatment*. These cases may terminate in resolution or suppuration, and all our efforts should be directed to secure the first of these terminations. With this object in view, in the first place I would venture to deprecate most strongly a certain "meddlesomeness" which I fear is not uncommon in these cases—visiting the patient three or four times a day, frequent vaginal and other examinations, and so on. Such can do nothing but harm to the patient. Having ascertained the local condition, I would make no further examination of the parts unless there was some plain indication for such examination. *Hot vaginal injections* may be used frequently with the view of soothing the inflamed tissues.

2. The engagement of a *well trained nurse* to supplant the ordinary obstetric nurse, who may be

left to look after the baby, I look upon as an absolute necessity.

3. The majority of these cases get well if properly treated, therefore tell the patient and her friends (the latter especially, as they are much more difficult to deal with than the patient) that all will be well eventually, although the case may be tedious, and apparently uncertain in its course. We should insist that the patient be kept at perfect *rest* in bed, not only during the period of pyrexia—it is easy enough then—but for some time, perhaps weeks, afterwards, in order that pathological effusions and thickenings may have *time* to become absorbed. I consider this a most important point. It is sometimes difficult to have it carried out on account of the patient not *feeling ill*; but, being firmly impressed with its importance, we should allow no entreaties on the part of the patient or her friends to make us waver. Dr. Fordyce Barker, in his admirable work on "Puerperal Diseases," reports a case of puerperal peritonitis, with severe symptoms, in which "ten days after, on the fourteenth day after her confinement, all bad symptoms had disappeared, and the patient was able to be up and walk about the ward." Fifteen days after she had a recurrence of chills, and a return of the mischief in a more aggravated form, and died in a few days of pelvic peritoneal abscess and general peritonitis. One cannot help feeling that had this patient been kept at rest in bed for three or four weeks longer, her life might have been preserved.

Further, I would avoid all leeching, cupping, poultices and other such abominations. The bowels should be kept open, as it is obvious that a loaded rectum must mechanically tend to aggravate the local mischief. *Quinine* in pretty full doses should be given from the commencement, "as a valuable anti-pyrogenetic remedy." If, in spite of treatment, or in a case where early treatment has been neglected, pus has formed, it should be let out at the earliest possible moment.

THERAPEUTICAL NOTES AND FORMULÆ.

Bryonia has been recently employed in whooping-cough, where it is found to diminish tracheo-bronchitis, but not to shorten the course of the pertussis. The dose is one grain per day for a child of seven years. Huchard finds it a valuable hydragogue cathartic in doses of three grains of the powdered drug.—(*Med. Rec.*)

Borate of Soda in Epilepsy.—This drug was tried by Dr. Pastena for epilepsy at the Naples Asylum. He states that it not only diminished the duration of attacks in cases of classical epilepsy, but it caused them to disappear for many months. Its success was even more complete in the lesser forms of epilepsy. In no case was the administration followed by gastric or any other trouble. Dr. Pastena believes that it acts by paralysing the motor centres.

The doses given were from 60 to 105 grains a day in water sweetened with syrup.

Rev. Gén. de Clin. et de Thérapeutique.

Benzo-Naphthol is recommended by Ewald in doses of two to five grains daily, for the relief of fermentative changes in the intestines, especially of old people. It is not acted upon in the stomach.

The following are some of the local applications used in **Erysipelas** recommended by various authors:—

- (1) R. Acid. Carbolic. ... 2 parts
Essent. Terebinthinæ ... 30 "
M. Sig. To be applied every hour to the affected part.
- (2) R. Acid. Carbolic. ... 5 parts
Vasellini ... 95 "
M. Sig. To be rubbed into the affected parts.
- (3) R. Acid. Carbolic. ... 5 parts
Alcohol. ... 95 "
M. Sig. To be applied to the affected parts.
- (4) R. Creolini ... 1 part
Iodoformi ... 4 parts
Lanolini ... 10 "
M. Ft. unguent. Sig. To be applied to the part once every 24 hours, and covered with oiled-silk.
- (5) R. Resorcin ... 2 parts
Glycerini ... 30 "
M. Sig. To be applied to the affected part every hour.
- (6) R. Ichthyol ... 1 part
Ether ... 1 "
Collodion ... 2 parts
M. Sig. To be applied with a brush to the affected parts.

(*Vratch. Les Nouv. Rem.*)

THE CLINICAL JOURNAL.

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A CLINICAL LECTURE ON GASTRIC AFFECTIONS.

Delivered at King's College Hospital, March 18th, 1893,

By JOHN OURNOW, M.D., F.R.C.P.,

Physician to the Hospital, and Professor of Anatomy in
King's College.

GENTLEMEN,—This morning I shall briefly call your attention to several cases of affections of the stomach that have been in the hospital under my care during the past session, and I do so the more particularly because gastric cases will come before you daily in your after-practice, and because each of these cases in one way or another has attracted a good deal of interest, from all of them we have been able to learn something as to diagnosis or treatment. I take them one by one because they are typical examples of ordinary everyday cases which you will always have to diagnose and treat in general practice.

The first case is that of a man, E.B., æt. 51, in Cheere Ward, a case you will all remember. He was sent up from the country, and was said to be suffering from chronic and persistent vomiting, but when we watched him carefully, and fed him simply on milk for a day or two we quickly found that, instead of a case of gastric disorder, there was a difficulty in swallowing, dependent upon some affection of the œsophagus, with which we had to deal. It was, in fact, not vomiting but regurgitation. The regurgitation continued for a long part of the time he was in the hospital, though it regularly and gradually got better. He was here from November 24th to December 12th. He was carefully fed, first on milk, and then on minced chicken, and afterwards on ordinary diet; and his swallowing improved day by day. When he came in he weighed 9lb. 5lb., and he went out having gained about 8lb. in weight. The cause of the affection in this case was very interesting; the man himself was positive in his statement that he had always had "this vomiting" since, and never before, an attack of influenza from which he had suffered last July. If his condition were really an effect of influenza

as he believed, it is an extremely curious disorder affecting a very limited part of the nervous apparatus of deglutition, for there was no reason to suppose any intrinsic muscular paralysis of the œsophagus or any affection of the deglutition centre. I am not inclined to differ from the man, because at this present time I know a lady who suffered very severely from influenza two years ago, and who is only now beginning to recover the sense of smell, clearly proving that the effect of influenza on the special nervous system may be both very prolonged and very marked. Of course, if this dysphagia were not a sequel of influenza the only conclusion we can arrive at was that the man was malingering, or that it was an example of hysterical dysphagia, which is extremely rare in male subjects, but he so steadily improved that there can be no reason to doubt his history of the ailment. He was a strong, stalwart railway labourer. Another point of interest in the case is, that except to encourage him by telling him that he was getting better steadily, and holding out a most favourable prognosis, we put him under no special medical treatment. The question was raised more than once as to whether we should pass a bougie; but as there was no suspicion of stricture or carcinoma, and as it appeared certain that there was nothing pressing on the œsophagus, and that the disease was purely neurotic, I did not see that any further information would be obtained by passing a bougie, and as the progress of the case was most satisfactory it was not done. Under strict supervision and careful dieting he improved in a marked manner, steadily and regularly; whilst in the country, though he was under the care of an excellent practitioner, the diet could not be so carefully looked after, and the man could not be attended so assiduously, so that he suffered much more constantly from regurgitation of his food than when he was here. The practical point, therefore, to be learnt from this case is that if a patient comes to you and says that he is subject to constant vomiting, you must make sure that he does really vomit, and investigate the nature of the vomited matters.

The next case to which I want to refer is that of a girl, æt. 20, who is now in the Twining Ward. This is a case of undoubted gastric ulcer, and here again we find some points of practical consequence.

The first is that she had not the slightest symptom of any stomachic disorder until the 3rd of January, when she suddenly became faint, and vomited a large quantity of blood. It is important, therefore, that you should at once recognise what you may subsequently meet with in more cases than one, that an acute gastric ulcer can be formed without any local symptoms whatever, the first signs of it being a hæmatemesis, or it may even be a perforation. Usually, of course, there are local symptoms, but there is a most important class of acute cases in which there have been no previous vomiting, pain, or other local symptoms. After this girl was in the hospital a couple of days she brought up another large quantity of blood, nearly 10 ozs. From that time, except for an intercurrent attack of tonsillitis, she has made an uninterrupted recovery, and will be discharged as having recovered in a day or two. I find on referring to the case-book that she was treated by enemata alone; and as you will often have to administer nutrient enemata, it is important that you should know how to prescribe their administration. Many of us here remember an example in which certain nutrient suppositories were administered, and at the post-mortem examination more than twenty were found undissolved in the rectum. That, of course, was such a practical lesson that I have not resorted to nutrient suppositories since. In the case before us four ounces of peptonised milk and four ounces of beef-tea were given with seven minims of Laudanum every six or eight hours. In every alternative enema an egg was beaten up. This treatment was continued from the 6th January to the 12th or 13th, when the enemata were increased up to ten ounces, but only given twice daily; and for the first time, on the 10th January, she was allowed a little milk and soda-water by the mouth. Of course, she had always had a little ice occasionally to allay thirst. Only two of these enemata were returned, all the others were retained. You will see, therefore, that the whole idea of this plan of treatment is to give absolute physiological rest to the stomach, and to afford the ulcer the opportunity for a spontaneous cure. Of course in a hospital such a treatment can be carried out very much more effectively than in ordinary private practice. After the 13th January, when I began to feed her by the mouth, the enemata were gradually lessened, until on 21st January, when they were stopped altogether. Now in this case I want to insist on the fact that beside the enemata

she had no medicines. You are recommended in text-books to give styptics like Gallic Acid, Lead and Opium, Ergot, and the usual routine astringents for hæmatemesis; but if you walk round a museum and look at specimens of gastric ulcer, you will speedily convince yourself of the impossibility of stopping the hæmorrhage which might arise from such ulcers by means of styptics. The only means of the slightest use for acute gastric hæmorrhage, so far as my experience goes, is to put ice-compresses over the epigastrium, to give ice by the mouth, or by cold water enemata, and either by mouth or by hypodermic injection, to give Opium so as to keep the patient in an absolute quiet. A great mistake, against which I would warn you, is the common supposition that because the patient is going to faint, brandy must be administered. So long as you can feel the pulse and that you know the patient will not die directly from the bleeding, do not give brandy; and when you find that it is absolutely imperative, give it by the rectum, rather than by the mouth, and give it in the most guarded manner and with your finger on the pulse. If the circulation is quickly restored, hæmorrhage must assuredly recur.

Another case will show another special danger of an acute perforating ulcer. I was called to shop in Oxford Street to see a man, aged about 40 who had apparently been perfectly well before this sudden illness. He was taken with fainting and collapse, and his friend in the shop gave him brandy somewhat freely. When I saw him about forty minutes after his symptoms began, he was evidently suffering from acute peritonitis, and he died in about an hour from the commencement of his illness. This abstract of an actual case in which a person rapidly died from peritonitis, secondary to an acute perforation, shows how great is the possibility of a case of acute gastric ulcer being mistaken for irritant poisoning, and *vice versa*. This person was an American wholesale druggist, travelling on business, and I insisted on a post-mortem examination being made, so that I could certify to the cause of death. I found a small clean-cut ulcer on the anterior wall of the stomach about the size of a shilling, and you could see on the peritoneum that the peritonitis spread from the ulcer, and as the odour of brandy could be readily detected before the stomach was opened and in the peritoneal cavity, the cause of death was not altogether perforation, but perforation-plus-brandy. The case was one of great

importance, so the body after being preserved was sent back to America, and the clean-cut ulcer was taken out and put into a bottle, to show that there was no justification for any suspicion of foul play as the cause of death. He had no symptom whatever, until he felt faint in the shop, and he died in a room behind within one hour and a half afterwards. These two very striking cases are intended to illustrate that gastric ulcers, leading to hæmatemesis or to perforation, may occur without any premonitory symptoms.

But usually there are the typical gastric symptoms, and we come to the question then as to the conditions on which these symptoms depend. In order to make a sure diagnosis of gastric ulcer you must have (1) an absolutely localised pain, limited to a very small area, measuring, say, the size of half a crown, with tenderness increased on pressure over this spot; (2) hæmatemesis; and (3) vomiting, which usually occurs at a very short and definite interval after the ingestion of food. If these be not present you may suspect gastric ulcer, and may treat the case as such, but you cannot be certain of your diagnosis. In illustration of this fact, most of you will remember the case of the cook to the Swedish ambassador, in the female ward. She had had a hæmatemesis, most marked gastric symptoms, and a history of gastric ulcer previously, as stated by herself, and it was some time before we could persuade ourselves that we had not here a case of gastric ulcer to deal with. But we found that the pain was not well localised, and was very intermittent, and that the vomiting of which she complained did not come on at a very definite interval after a meal as it does in gastric ulcer. There had probably been a gastric ulcer, but the importance of making a correct diagnosis in such a case is shown by the fact that when the present existence of a gastric ulcer had been excluded, and gastric catarrh was decided on, we could prescribe Arsenic, Iron, and a full diet, and under this treatment she improved rapidly, and has now gone to our convalescent home, after having been in the hospital for about three weeks or a month.

Another class of stomachic cases with which you will have to deal, is illustrated by an anæmic girl who comes up occasionally to see me from a London suburban village, and who has been an occasional out-patient under my care for the last three or four years. She came up complaining of the common run of gastric symptoms, vomiting, pain, pyrosis, flatulence, and so on. She had been

put to bed by a practitioner, for three weeks, and had been kept strictly on a milk diet, thus having been obviously treated for a gastric ulcer. I found no localised pain or tenderness on pressure, and no hæmatemesis. As she was a girl of 18, the thought that she might have an acute gastric ulcer, immediately occurred to me, especially as it had been evidently suspected that it was gastric ulcer. But when one was able to definitely exclude gastric ulcer from the diagnosis, she was put on Arsenic and Iron, and a good diet, and she very speedily improved. Here we come to the question as to the form of Iron which you should give in such cases, and the kind of diet you should order. There are three preparations of Iron of which I am rather fond. In the first place, I usually prescribe in cases where the gastric symptoms are very pronounced, the alkaline mixture of soda, Hydrocyanic Acid, and Gentian between meals, and afterwards with Reduced Iron after food. If the case is one in which the gastric symptoms are not so pronounced, and the anæmia is the more marked condition, I prefer the Ferri et Ammonii Citrat; but if you really want to "push" Iron, there is nothing like giving the dried Sulphate of Iron in the form of pills to the extent of 10 or 20 grs. a day; you should combine it with a little extract of Nux Vomica and extract of Aloes, so as to make sure that the bowels act regularly, and you will find in these cases that this form of prescribing Iron will be of great benefit. The objection to the Perchloride is that you cannot then administer enough Iron. As to diet, your patients or their friends will want to know what food they ought to take and how often they should take it. I insist on milk, or cocoa and milk, on rising in the morning. Then they may have for breakfast, bacon, eggs, fish, or chicken, or anything of that kind, as much as they will eat, for generally they eat rather little. At 11 they must again take food, and then I prefer giving them milk or beef tea. For dinner in the middle of the day, I prescribe a plain dinner of ordinary meat, chicken, or game (but no *entrées* under any circumstances whatever), with very little vegetables and a milk pudding afterwards—and here I am particularly firm. The next difficulty is with the five o'clock tea, and here you may again order milk, telling them they may put a little tea in it so as to taste it, should they care for it. And before going to bed at night they should have something—not a heavy meal, but corresponding somewhat to the breakfast. If they take from a pint to a

pint and a half of milk a day in addition to other food, I am satisfied. Should you give them stimulants? Well, that all depends on circumstances: if they have been brought up not to drink anything, then by no means give it; but if they are not rigid abstainers they will gain some advantage from taking two small glasses of very light bitter beer a day, one with their dinner and one with their supper; or, if it must be wine, which I think preferable, I order them two glasses of Burgundy daily, but this again with the meals. Burgundy is, in my opinion, the best wine for these anæmic cases. Sherry turns acid, port often disagrees, and claret is "thin." I would further point out here that you should always have your minds open to the suspicion of phthisis, for this disease not unfrequently begins with these stomachic symptoms in anæmic girls. After much improvement for three years this patient returns, and she has now some marked physical signs of early phthisis, but is again improving.

There are some other cases relating to a different class of stomachic disorders to which I would briefly refer. You will remember two men lying side by side at the end of the Cheere Ward. They both complained of very much the same symptoms; there was loss of weight, vomiting, and the usual symptoms of gastric catarrh in both; there had been no hæmatemesis, and no tumour could be felt in either case over the abdomen. One case was treated with careful dieting in the manner I have described, and with a pill I am much in the habit of prescribing for these chronic cases, containing Ipecacuanha, Capsicum, Nux Vomica, and Aloes. He improved steadily, gained in weight, and went out remarkably well. But the other man lost weight. He came in weighing 8st. 3lbs., but he gradually emaciated until he only weighed 6st. 7lbs. Of course this made us think of malignant disease, but there was no tumour to be felt; and there had been no hæmatemesis, and so I began to hesitate in the diagnosis. There was nothing to point to any limited area of mischief, and the history of the case had spread over a long time. We were a little the more puzzled still when after regularly washing his stomach out with an alkaline solution, which is an excellent treatment for chronic gastric catarrh, he got much better, and described himself as feeling well, and his vomiting entirely ceased. One morning, however, he was taken with a sudden profuse hæmatemesis, and died. At the autopsy there was found a chronic gastric

ulcer at the pyloric end, with a thickened margin—one-third or a half-inch thick—made up of chronic inflammatory tissue, but with no new growth, as was found on microscopic examination. This was a typical case of the chronic perforating ulcer. This man had habitually for months suffered from gastric symptoms, and it opened up the question, which is always a difficult one to answer, of a diagnosis between a chronic gastric catarrh, chronic ulcer, and malignant disease.

The only signs which make me satisfied of the presence of true malignant disease of the stomach are, the presence of a tumour in the region of the pylorus, and hæmatemesis, but you must often suspect it without either of these being present. This leads me to the other case which all of you will remember, who also at first was in the Cheere Ward with a tumour over the right hypochondriac region; and in which there was a great discrepancy of opinion as to the nature of this tumour. Except occasional vomiting, he had no other symptom. It was supposed by some of us to be in the abdominal wall, by others to be in the liver, whilst one or two thought it was in the stomach. The difficulty of associating it with the stomach was its very rapid growth and slight gastric uneasiness. In the cases of pyloric cancer which I have seen the growth is comparatively slow; whilst here the tumour was growing week by week before us as we examined it. An exploratory abdominal section was decided on with a view to any further operation that might be necessary, and you will remember that when Mr. Cheyne opened the abdomen he even then thought at first that the tumour was in the liver, and it was only on further procedure that he found it was connected with the stomach. He performed a gastro-jejunostomy, which relieved the vomiting for a few days, but the man gradually sank, and died in two or three weeks. When we made a post-mortem examination, we found that the tumour was connected with the pylorus, and that instead of an ordinary scirrhus, it was a cylindrical epithelioma, which, of course, accounted for the rapidity of its growth. I mention this case to show you how difficult it sometimes is to come to a positive opinion in these cases; for here, although the abdomen had been opened, the exact nature of the tumour could only be found after death. Therefore in all such cases, as I have said, you should not venture on a positive prognosis of cancer unless you have these two facts before you—the tumour

and the hæmatemesis ; but you should always have your mind open in all doubtful cases to the possibility of malignant disease being present if vomiting is long continued, and more especially if it is associated with a tumour in the situation of the pylorus.

Showing again the occasional difficulty of this diagnosis and its importance, I may refer to an old woman who has been admitted into the Twining Ward, I was almost going to say, periodically. Her history is this: she comes to the out-patient department almost regularly, and is almost as regularly sent into the wards as a case of cancer of the pylorus, for she has a very cachectic appearance. She has been in now three times under my care, and each time after being treated for some little while she gains weight, she ceases to vomit, and expresses herself quite comfortable, and then goes out improved, only to reappear after four or five months. In these periodical reappearances, alcohol may probably play an important part, but I mention the case to show you how difficult the diagnosis must occasionally be in these cases.

Before I finish I will call your attention to another case of vomiting, which is in the wards at present, most of you will know it: it is a woman covered with molluscum fibrosum. She complains of sickness, faintness and general debility. The skin of the upper parts of her extremities is marked with a deep bronze tint. I am afraid that, although there is no deposit of pigment on any mucous surface, it is a case, not of simple gastric catarrh, but of Addison's disease. You must also be on your guard against mistaking the vomiting of cerebral or renal diseases for an ordinary catarrh of the stomach. In all cases of supposed chronic gastric catarrh examine the urine thoroughly. You will then appreciate that it is necessary to take an all-round view of every case of stomachal disturbance, and that you must not treat gastric cases as if they were all due to the same cause and on the same type or form, that they each require specially looking after, and must not be simply dosed on a routine practice of Rhubarb mixture, etc. I urge this now the more particularly because, owing to the advances that have been made in the exhibition of drugs by the manufacturing chemists, we are not now even under the necessity of prescribing Mist. Rhei Comp., and knowing its composition, but we are asked to order them according to a formula, say, No. 42. This is, in my opinion, the worst kind of prescribing

possible, bad for the patient and bad for you, for it has the undoubted tendency to lead you to avoid all trouble in coming to a proper diagnosis and of determining on the proper treatment of the individual case.

As these cases teach something different, but are all of importance in connection with affections of the stomach, I thought it would be well to bring them before you in a kind of *résumé* instead of selecting an example of any one single disease and lecturing to you systematically thereon.

A CLINICAL LECTURE

ON

SOME CASES OF SPASMODIC TIC DOULOUREUX.

Delivered at St. George's Hospital, March 21st, 1893.

By WILLIAM H. BENNETT, F.R.C.S.,

Surgeon to the Hospital.

GENTLEMEN,—The subject of neuralgia, involving one or more branches of the fifth nerve, is a very interesting one; I therefore propose to devote the present lecture to the consideration of some of the more important points connected with its treatment.

As a text for the remarks which follow, I have selected three cases, which many of you have seen, as they have been under my treatment here comparatively recently.

The first of these cases is that of a man, H. S. by name, æt. 66, who originally came into the hospital on July 2nd, 1891. He then stated that his health had always been good until three years before his admission, with the exception that he had suffered from fever in the Crimean War, and that he had had syphilis when a youth; but this had caused no trouble of any kind since. For all ordinary purposes, therefore, he was, as he said, a perfectly healthy man till three years before he came to the hospital. About that time he began to suffer from acute pain around the back teeth in his lower jaw on the right side, and in spite of vigorous treatment by medicines at the hands of many practitioners and dentists, who had extracted all the teeth on the right side, the pain continued and became gradually worse. Twelve months before admission, acute exacerbation of the pain occa-

sionally happened, being always associated with violent twitching of the face about the right angle of the mouth.

Upon admission the man appeared to be well nourished, and of the ordinary strong labourer type. Careful observation showed, however, that the right side of the face was somewhat congested generally, that the facial grooves and wrinkles were more marked than on the opposite side, and that there was some chemosis about the conjunctiva on the same side. The opposite eye was blind in consequence of an accident some years before, an important point in connection with the treatment of the case, as will be seen presently. Suddenly, there would come over the whole face an expression of intense pain; the right side of the mouth would begin to twitch, and the whole of that side of the face become distorted by muscular spasm, the eyelids being firmly closed in the same way, the head finally being drawn down on to the right shoulder. Attacks of this kind occurred as many as 200 times in the day, and in the night they constantly awoke him in his sleep in spite of every kind of strong narcotic and anodyne. The man's condition was therefore very grievous and distressing.

At a consultation it was decided to commence with medicinal treatment as, surgically, the case was most unpromising. This treatment proved entirely futile, and it was clear, therefore, that if any relief were to be obtained, it would be only by surgical means. I therefore readmitted him into the hospital on September 29th, 1891. The spasms and pain were then, if anything, worse than before, and now it appeared that although the pain was pretty generally distributed over the right side of the face, it started,—or, at least, the patient, upon inquiry, fancied that it started—from a point just below the orbit, exactly over the infra-orbital canal. I therefore proceeded to remove the whole of the superior maxillary nerve in the following way:—Making the incision usually employed for the removal of the upper jaw, the cheek-flap was turned back, and the whole anterior surface of the upper jaw exposed. The front of the antrum was now removed by means of a trephine of suitable size ($\frac{3}{4}$ inch diameter) and the antral cavity carefully examined for an encysted tooth or any other possible source of irritation. Nothing unnatural being found, the infra-orbital nerve was now exposed inside the antrum by picking away the wall of its canal,

and in order to get sufficiently far back, an opening was then made through the posterior wall of the antrum into the speno-maxillary fossa. The trunk of the superior maxillary nerve having been thus fully exposed, it was seized as far back in the fossa as possible, and simply pulled out by its roots, the length of nerve, including the infra-orbital, up to the exit from the infra-orbital canal, being nearly $2\frac{1}{2}$ inches. The trunk was, in point of fact, clearly pulled directly away from the Gasserian ganglion, its connection with Meckel's ganglion and its branches being at the same time destroyed. The wound naturally healed by first intention, and with the exception of a little twitching which occurred upon the third day after the operation, no pain or spasm of any kind whatever followed until ten months later, when he began to notice some pain about the lower jaw and some twitching of the right side of the face. The pain now started *in the region of the mental foramen*. Thinking that some of this pain may have been due to apprehension on the patient's part I endeavoured to temporise a little, and again tried medicinal treatment of various kinds, old-fashioned and new-fashioned, but without effect. The pain, for the first time, he said, now "curled up behind the ear." I then exposed the inferior dental nerve by trephining the ramus of the lower jaw, and, having divided it just at the entrance into the canal, seized the proximal portion with a pair of forceps and pulled as much of it away as I could, the length avulsed being about 1 inch. Entire relief from pain and spasm followed upon this treatment, and he still remains perfectly well. How long this immunity from pain will last I cannot say; that it will be permanent is most unlikely, although not actually impossible, but it is reasonable to expect, at all events, another year's comfort.

The next case is of a similar kind, but its details are somewhat different. The patient was a woman about 70 years of age, who was admitted under my care on October 21st, 1891. She had been perfectly well until two years previously, when, without any apparent cause, she began to suffer from intermittent pain over the right side of the face, associated with spasms of the facial muscles on the same side. With the exception that the head was not drawn down upon the shoulder, she suffered much in the same way as the man already referred to, but the spasms were less violent and less frequent, and the pain, from the commencement, always seemed to start from

the right half of the lower jaw, along the whole length of the alveolar border, from which all the teeth had been removed by dentists in the hope of so curing the pain. There was no small isolated spot from which the pain originated, but if the finger were passed with a little pressure along the shrunken edge of the bone the facial pain and spasm immediately followed. As medicinal treatment did not in this instance offer any reasonable prospect of relief, I at once exposed the inferior dental nerve by trephining the ramus of the jaw as was done in the other case, and after division of the nerve at its entrance into the dental canal, seized the proximal end and pulled an inch of nerve tissue away. Complete relief followed, and up till now no sign of recurrence of the symptoms has shown itself, and there appears to be a fair prospect of a permanent cure.

A third case was that of a younger woman, admitted about the same time as the patient just spoken of. She was 40 years old, and was suffering from intermittent painful spasm on the right side of the face, which she attributed entirely to irritation, which had been caused by a lower molar tooth which, together with the other teeth on the right side, had been extracted without affording relief. In this case, which in other respects was identical with the previous one, the pain seemed to start from a rounded thickening over the site of the second lower molar tooth. She was somewhat neurotic, so various medicinal methods were tried first, and as these failed to effect any good the thickening on the jaw was exposed, and incised without any result. I therefore avulsed the proximal part of the inferior dental nerve precisely in the same way as in the other cases. Complete relief followed at once; but about three weeks ago she came to the hospital again with some recurrence of pain around the old thickening in the jaw, which differed from the original pain inasmuch as *there was no spasm*; the suffering was now also periodic, which was not the case before. These differences, coupled with the fact that the woman was obviously very hysterical, led me to propose no further operation. I therefore have had her placed on anti-hysterical remedies, and have had the cautery gently applied along the lower jaw, and am disposed to think that by these means the present trouble will be allayed.

I have chosen these three cases as fairly typical examples of facial neuralgia with spasm. The first, a complete example, in which the affection

involved the whole of the three divisions of the fifth nerve, the symptoms being relieved for a considerable time by the entire removal of the superior maxillary nerve, and upon their recurrence further relief being obtained by dealing with another part of the nerve in the same manner, medicinal means having been found entirely useless. The second instance, less severe and less complete in its manifestations, relieved by a similar operation, it is fair to hope, permanently; and the third case, relieved to this extent, viz., that the pain, although it has to some extent recurred, is now periodic and without spasm. The cases, therefore, as you will see, present points of difference, not only in themselves, but also in the results obtained by treatment.

In deciding upon the line of treatment to be adopted in cases of this kind, the first thing clearly indicated, is to ascertain whether any local and obvious source of irritation exists, which may account for the symptoms, such, for instance, as an encysted or diseased tooth, local periosteal thickening, painful cicatrix, etc., etc. If any possible cause of this sort is found, it should of course be treated and removed by such means as may seem best suited for the purpose. If no such cause of local irritation exists, or if when existing its removal is followed by no good result, the question then arises as to what is next to be done. Should medicinal treatment be tried, or should surgical measures be resorted to at once? In a general way there are two indications which point very decidedly to medicinal treatment, and not always merely as a means of temporary relief, for in some cases a permanent cure may follow. The indications referred to are (1) gout and (2) syphilis in the patient's history. In the first of these conditions Colchicum combined with Iodide of Potassium or Mercury, or perhaps merely with some simple alkali, will occasionally act speedily, and the patient may remain in complete or comparative comfort so long as the treatment is continued and the ordinary precautions taken which are essential to the gouty state.

In the cases having a history of syphilis of anything like recent date, there is more hope for the good result of medicinal treatment than in any others. In such patients anti-syphilitic remedies should be thoroughly persevered with for a long period before surgical measures are resorted to. One of the worst cases which I have seen relieved by medical means was so far as I know permanently

cured by a course of inunction and baths at Aachen (Aix-la-Chapelle).

In the absence of either of these indications medical treatment is almost hopeless, so far as any permanent good is concerned. Mercury with Arsenic will, however, sometimes give relief for a time. So also will Bromide of Potassium with Quinine and Arsenic. Aconite, much lauded at one time, seems useless. From the many newer drugs, such as Antipyrin, Butyl Chloral, etc., etc., I have seen nothing but very evanescent comfort obtained, and they are by no means harmless in themselves.

Morphia in large doses will of course render the patient apathetic, but has no effect on the disease. In respect to medical treatment, the following point is important:—*The greater the spasm the more hopeless is the prospect of relief from physic.*

If the effect of medical treatment proves futile as it generally does, the question of surgical measures comes up for consideration. Should the pain start distinctly from any one spot, this should be in the first place carefully explored, for it must be remembered that although no superficial evidence of local irritation may be manifest, such a local cause may exist in the shape of the buried portion of a fang of a tooth, a small dentigerous cyst, or a limited bony sclerosis, which could only be brought into view by opening up the parts. A very marked case which came under my observation, although the patient was not mine, was one in which complete relief followed the removal of a portion of a tooth fang (from the floor of the antrum) which had apparently been broken off during tooth extraction many years before. Failing any good result from such an exploration, the obvious course to be followed then is to separate as completely as possible from its central connections the nerve most involved in the neuralgia. In order to effect this purpose the method of avulsion mentioned in the description of the cases which form the basis of this lecture is by far the best; the nerve being first exposed, and then seized as far back as possible, and pulled out as it were by the root. This plan is far more radical, and if it does not completely cure, gives a greater period of relief than simple neurectomy or neurotomy.

In cases in which all the divisions of the fifth nerve are affected about equally, without any very distinct starting-point for the pain, the prospect is generally not hopeful, so far as any permanent

benefit is concerned, unless a very severe measure is adopted, to which I shall refer presently. Temporary relief can, however, in almost all cases be given by operation (preferably in my opinion by nerve avulsion). Whatever operation is adopted *some* temporary relief appears to follow, the completeness of this relief both in degree and in duration bearing apparently a distinct relation to the radical nature of the operation; the more directly the nerve is detached from the Gasserian ganglion the better the result seems to be, and short of actual resection of the ganglion itself, nerve avulsion appears therefore to be the best treatment.

Now as to the removal of the Gasserian ganglion in these cases. There is no doubt that this proceeding offers a better prospect of complete and permanent relief from the pain than any other plan; it is, however, well to remember that it is not so much the actual removal of the ganglion which effects this as a division of the sensory root of the nerve behind the ganglion before it joins the motor division. I hardly think that in the few cases already operated upon in this way sufficient time has yet elapsed to enable us to form any very accurate idea of the permanence of the relief obtained.

My own feeling at present is that the removal of the ganglion should be resorted to as a last resource, and only after attempts at giving relief have been made by the avulsion first of the superior maxillary nerve, and then the branches or trunk of the inferior maxillary. In extreme cases I should not hesitate to perform resection of the ganglion; the operation is not surpassingly difficult, and ought not to entail immediate danger if done in the manner recommended by Mr. Rose. The great drawback is the loss of sight which follows on the side operated upon. It is this drawback which complicates the future treatment of the first of the cases I have mentioned, for you will recollect that the patient has already lost the sight of the left eye, and, therefore, if the pain returns again, as it probably will do, the removal of the Gasserian ganglion as a last resource is put out of court by the fact that it would, I suppose, ultimately leave the man totally blind, a condition he would hardly be likely to voluntarily run the risk of being placed in, especially as I do not think in our present knowledge of the treatment we could promise with certainty permanent relief. Later on in the history of this operation, if it is found

that the relief it affords is certain and permanent, it will clearly be the treatment to be adopted early in some of these otherwise almost hopeless cases; at present, however, it should, I think, be regarded only as a last resource after all other proceedings have been tried, from the milder ones of mere counter irritation with blisters to the severer and more radical nerve avulsions.

When the pain and spasm in any case is pretty uniformly distributed over the side of the face, and there is no one spot from which the symptoms seem to start, or at which they are materially concentrated, it is, as I have pointed out, always possible to afford repeated temporary relief by successive operations upon the divisions of the fifth nerve, the operation of avulsion being by far the best. In the event of this method of treatment being decided upon, the superior maxillary nerve should be first dealt with in the manner described in my first case; then, if necessary, the branches or trunk of the inferior maxillary nerve should be attacked, the first division of the fifth nerve being left till the last in consequence of possible risk to the eyesight which may ensue if this division is dealt with sufficiently far back to produce any material benefit.

Before concluding, allow me to say a few words about the best method of performing nerve avulsion or neurectomy of the superior maxillary trunk and the inferior dental branch, the nerves most commonly attacked by operation in these cases.

So far as the superior maxillary trunk is concerned I am convinced that the operation I adopted in the first of the cases I have described is the best: it is easy, and allows the whole trunk to be pulled right away from the Gasserian ganglion, and it destroys at the same time with certainty all connections with Meckel's ganglion; further, no other important parts are injured, as may easily occur when the trunk is exposed in the spheno-maxillary fossa by other operations, which are in themselves much more difficult to perform. Moreover, this plan by which, first, the whole anterior aspect of the upper jaw is exposed, and, subsequently, the antrum laid open, affords such an admirable opportunity for exploring the parts thoroughly, both inside the antrum and outside, that any local source of irritation can hardly escape notice. The resulting scar on the face, at first sight an objection, is, if the operation is properly carried out, imperceptible at the end of a few weeks.

For dealing with the inferior dental nerve I

much prefer the method adopted in each of these cases—viz., exposure of the nerve from the outside by trephining the ramus of the lower jaw. This operation is easy, certain, and requires no artificial light for its performance. The only drawback connected with it is the small scar on the face which follows.

This scar, however, is so small, especially if it be made in the direction of any of the wrinkles which are usually pretty numerous in these cases, that it is hardly perceptible even on a woman's face, and in a man it is so readily covered with whisker that no real objection can arise on this account. No important structures can be wounded if moderate care be exercised, and there is no fear of weakening the jaw itself if a half-inch trephine only, which is quite large enough, is used. The only point in relation to the operation which requires special note is the situation of the opening of the inferior dental canal. When the teeth are *in situ* this opening is exactly on the level of a line drawn straight backwards from the top of the lower molars, and if, as is generally the case in patients suffering from tic, the teeth have been extracted, the level of the canal opening is indicated by a line drawn directly backwards a quarter of an inch above the shrunken alveolar margin. If an opening is made by a half-inch trephine placed with the pin a little in front of the middle line of ramus and with its lower margin on the level of the line mentioned, the nerve is immediately seen lying in company with the inferior dental artery, and can be easily dealt with in any way the operator desires. The artery commonly escapes injury, and if it is wounded the application of pressure forceps for a couple of minutes has, in my experience, immediately stopped the bleeding.

The plan commonly recommended in the books for dividing or resecting a portion of the inferior nerve is the exposure of the nerve inside the mouth by an incision through the mucous membrane behind the internal lateral ligament. After being thus exposed the nerve is hooked up and dealt with. In the cadaver this operation is easy enough, but in the living subject the case is altogether different. If the bleeding is free, as it often is, there is considerable uncertainty about catching the nerve; moreover, to perform the operation at all satisfactorily artificial light is almost indispensable (in the shape of a small electric lamp), which is in my opinion a great objection to the proceeding. Altogether, therefore, for several reasons the ex-

ternal operation is in my opinion far better than the internal under ordinary circumstances. Of the simple division of the inferior dental by cutting across it, as it runs under the mucous membrane of the mouth, by means of an angular or curved knife, without any formal exposure, I have said nothing; it is, I think, in the first place, an uncertain operation, and, secondly, if the complete division of the nerve is effected the result is generally inadequate. I therefore do not practise this method of treatment.

I have called your attention to-day to a few only of the interesting points connected with this distressing complaint; there are other questions of equal importance upon which the time at our disposal will not permit me to dwell.

A CLINICAL LECTURE

ON

HAY FEVER AND ASTHMA.

Delivered at The Throat Hospital, March 27th, 1893,

By GREVILLE MACDONALD, M.D. Lond.,

Physician to The Throat Hospital, Golden Square;
Assistant Physician for Diseases of the Throat, King's
College Hospital.

GENTLEMEN,—Thinking over the remarks which I intended making to you this afternoon on the subject of hay fever and asthma, so far as the symptoms of the latter are associated with nasal affections, it occurred to me that one could hardly have a subject for discussion which would better exemplify at once the benefits and the dangers of specialism. Or perhaps I should not say specialism in a general way, as I am scarcely acquainted with other branches; but I am quite sure in that department of medicine to which I have devoted my attention that we could scarcely find a fitter subject for showing the mischiefs that may arise from specialism. You know, of course, that a great deal has been talked of late years about the association of intra-nasal affections with certain phenomena which have been described as reflex. In certain quarters it has become an accepted doctrine that, whenever you have a patient suffering from anything in any part of the body and find at the same time a morbid condition of the nose, the remote affection is necessarily associated with the nasal mischief. To a limited extent this

is quite intelligible, and is styled a nasal reflex phenomenon; but I think specialists have to be on their guard against false inferences by carrying such a theory too far, and you will agree with me, I have no doubt, that there is a real danger in contracting wider considerations to the narrow limits of special study.

I may say at the outset of my lecture that I am going to give you simply my own observations and conclusions on these matters; you will find the theories of others detailed in the text-books on the subject; and I may warn you that many great authorities are entirely at variance with the next remarks I shall make. The only nasal reflex conditions I can admit are physiological reflexes; of pathological reflexes resulting from disease of the nose I have no experience. With the physiological we are all intimately acquainted. I mean such conditions as will be produced by irritation of the nasal mucosa, of which sneezing is the commonest. On the insertion of a probe into the anterior nares we induce sneezing; passing it further we get lachrymation; still further back we have cough, and finally deglutition. These appear to me the only phenomena which it is wise to consider as nasal reflexes, even when we are dealing with morbid conditions in the nose. Of course, we may have these symptoms excited by irritating various parts of the nose, though we usually get them in the order I have mentioned; but neighbouring regions, when irritated, may give rise to symptoms which we usually find more closely allied with the nose; thus irritation of the conjunctiva may result in sneezing, and I know a patient in whom bitter on the back of the tongue will invariably set up the same reflex. Now beyond these, which are the common symptoms of nasal irritation, we frequently find others which it is common to consider as reflex, the most noteworthy of which is asthma, that is to say, contraction of the bronchial tubes, and difficulty of respiration. Besides this, many nervous phenomena are found associated with nose-disease; but we are not bound to consider them reflex symptoms. Nor is there good evidence to justify the supposition that asthma is reflex. The physiological evidence is very contradictory, and from clinical observation it appears to me far more rational to assume that asthma in cases of nasal obstruction—which is a condition nearly always associated with nasal irritation—is due really to obstruction of the nasal respiration; to the inspired air, in fact, not being

warmed, filtered, and moistened in the nose, passing on to the bronchial tubes, and there setting up an irritation of its own. This results in contraction of the bronchial tubes from immediate irritation, or rather we have a bronchial and not a nasal reflex at all. I have seen such symptoms removed by simply restoring nasal respiration in cases where there were no other symptoms of nasal reflex, not even sneezing. Indeed it is generally admitted that nasal polypus is frequently associated with asthma; but it is well known that in old standing cases of this sort, the nasal mucosa is peculiarly insensitive to tactile stimulation; and these are surely not the local conditions in which we should expect *à priori* to get reflexes from local irritation.

Beyond these there are on record indubitable cases of epilepsy, which were cured by intra-nasal treatment. I have had but two cases of epileptiform convulsions under treatment; one was certainly not true epilepsy, and as certainly had his convulsions completely removed by curing nasal obstruction. The other, a pure and simple epileptic case, was not benefited thereby. There are, however, cases of real epilepsy beyond dispute; but these probably are cases in which no doubt intra-nasal irritation may be the immediate cause of the seizures, although the morbid condition of the nervous centres is the real disease; given the latter, any other peripheral irritation may be responsible for the immediate attack. In such cases the phenomena may be reflex, but depending on the epileptic condition. My own case of convulsions which was cured by removing adenoids, was a boy sent by Dr. Davis, of Nottingham, whose nose was so obstructed that he snored the moment he fell asleep. As a rule, in children, the instinct to breathe through the nose is so strong that, in spite of obstruction, they continue to do so, especially during sleep. The mouth may be apparently open, though the tongue being fixed to the palate closes the buccal cavity. As the boy I am speaking of slept he snored deeper and deeper; presently he began to get a little dusky in the face; next he got an attack of spasm of the glottis, with the respiration so characteristic of laryngismus stridulus; next an attack of general convulsions; and, finally, he suddenly awoke. Then he adopted buccal respiration, and the symptoms all disappeared. This process would last all through the night—falling asleep, snoring, spasm of the glottis, convulsions and

waking up. This case was obviously associated with obstruction to respiration, rather than with nasal irritation. Other instances where diseases or nervous symptoms have been associated with intra-nasal disease, that is to say, where certain symptoms have to be relieved by intra-nasal treatment, have not come under my observation; and I do not think they have come under the observation of any of my colleagues,—the inference being sufficiently obvious.

But I must add yet a few more remarks on the association of asthma with nasal disease. The commonest instances of the co-existence of intra-nasal disease with asthma and bronchitis are cases of nasal polypus. These cases are fairly common, and I believe a large proportion of cases of bronchitic asthma suffer from nasal polypi. This was long ago recognised by Trousseau; and then Voltolini recorded cases where asthma was cured by the removal of the nasal obstruction. But the recognition of the association is actually much older, for even in the middle ages certain writers had noted it. Nevertheless, it does not necessarily follow that because we have polypus associated with chronic bronchitis that the chronic bronchitis is caused by the polypus. I have encountered no case in my own experience in which the removal of polypus has given as much relief to ordinary bronchitic symptoms as usually follows the surgical treatment of hay fever.

The actual amount of asthma and bronchitis is not materially affected in the majority of cases by curing the polypus, although I have had two cases of striking relief. This point is admitted by a good many who have had opportunity for observing such cases. It appears to me that the chronic inflammatory condition which, in the nasal fossa, expresses itself in the form of polypus, in the bronchial tubes takes the form of catarrh with occasional attacks of spasm of the tubes, both conditions being consequences of the same ætiological factors; moreover, these cases nearly always have, in addition, a chronic laryngitis, so that the whole respiratory area is in a condition of chronic inflammation. But other forms of nasal obstruction appear to be often the direct causes of spasmodic, if not bronchitic, asthma. It is in the case of children that we get the best results from intra-nasal treatment of asthma. Where a child suffers from chronic bronchitis and asthma, however much emphysema there may be, we may do much to relieve and

cure if we can discover that there is obstruction to nasal respiration; the commonest forms of which are adenoids and the varieties of enlargement of the inferior turbinated bodies. In such cases we may give a very favourable prognosis. Well, then, in adults, so far as my cases inform me, the next best conditions we can find are those in which there is interference with the respiration through the inferior meatus. Whenever we find a case of asthma, together with hypertrophy of the inferior turbinated bodies, or ecchondrosis of the septum obstructing respiration, we should urge the patient to be operated upon. But in cases of polypus I always express myself guardedly, so far as the bronchitic symptoms are concerned. Sometimes polypus patients are extraordinarily relieved by the comfort an operation gives them, but the actual bronchitic condition is probably but seldom much alleviated.

Out of twenty-two cases where bronchial symptoms have been associated with intra-nasal disease, I have had twelve manifestly relieved by nasal treatment. Two of these were large ecchondroses of the septum; four of vascular tumefaction and hypertrophy of the inferior turbinated body; two of polypus and four post-nasal adenoids. Eight out of the twelve were practically cured, the four adenoids being cases of children. The other ten, which were cases of polypus, were not cured at all.

To proceed now to hay fever. This, of course, is a true nasal reflex, yet not in itself pathological, but physiological. As a matter of fact, I think that, correctly speaking, we ought not to describe hay fever as a disease—it is merely a train of symptoms—a train of physiological reflexes, instigated by an unwarrantably small provocation in certain individuals more susceptible to the influence of this provocation than the rest of their kind. With them an irritation, normally imperceptible, will start a formidable train of symptoms; just as in some individuals certain oscillating movements will produce the physiological reflexes commonly called sea-sickness, which are not necessarily associated with any morbid conditions. Similarly with hay fever, the majority of people do not find a little dust, or pollen, or whatever may be the exciting cause insupportable, while others are not only thereby reduced to a truly pitiable state, but actual pathological conditions of the nose may result from such continual irritation. You will hence see that I look upon the actual *patho-*

logical conditions as the result rather than the cause of the hay fever.

Now, we must admit that the term *hay fever* is injudicious, seeing that it implies an invariable cause of the symptoms. Yet I am not willing to substitute any other for it, provided we understand that the symptoms we call hay fever may be instigated by any source of irritation whatever, to which the patient happens to be sensitive. A better name perhaps, would be *paroxysmal sneezing*, but considering that the former is so universally accepted, it is wiser to accept it rather than to add to the many undesirable substitutes.

The study of hay fever is a matter of recent years; the first good account of it was written by a Dr. Blackley, of Manchester, in 1873. He was a great sufferer himself and wrote an admirable brochure on it. He was the first to substantiate the point that the commonest source of irritation is the pollen of certain grasses, especially of ripe rye grass. He also noticed the fact that it was only the few who experienced any discomfort from it, though all were equally exposed to it. The next writer on the subject was Dr. Beard, of New York, who, five years after, pointed out that nearly all the patients were of the neurotic temperament, and that constitutional treatment directed towards the amelioration of this condition was often of considerable value. Then Dr. Marsh, also of New York, in 1877 published a paper on hay fever. He himself was susceptible only to the pollen of the common rag-weed, which blossoms only in the autumn in America. But he was obviously mistaken in supposing such patients were susceptible to this alone, as in that case the hay fever of those suffering in the spring, would be unaccounted for. In the year 1882, Dr. Daly of Pittsburg contributed perhaps the most important theories of all, though he in his turn, was partially misled. He maintained that hay fever was invariably due to morbid conditions of the nose, and that they could all be successfully treated by intra-nasal operations. But cases are frequently encountered in which the nose is absolutely normal, and such would be inexplicable on this supposition. Sajous, in the following year, made a contribution of some value in which he corroborated Daly's theories, which were subsequently embraced by specialists all over the world—in Vienna by Hack, and in this country by Woakes, MacBride and many others. But J. N. Mackenzie of Baltimore advanced the theory that the coryza, as he

considers it, is dependent upon some functional derangement of the nerve-centres rather than any abnormality in the mucous membrane. Then there appeared Morell Mackenzie's able treatise in 1885, in which he contended that there was no intra-nasal disease at all, and that the whole trouble was an idiosyncrasy dependent upon the general health. Well, Gentlemen, all these writers are partially right, and yet not one of them, as appears to me, has grasped the subject from a wide point of view. I think we may define hay fever in the first place as an idiosyncrasy, which renders certain individuals abnormally sensitive to sources of irritation to which they, in common with the rest of their fellow creatures, are exposed; which idiosyncrasy may be augmented, if not actually started, by abnormal conditions of the nose. Yet it must be admitted that we find many a case in which the mucous membrane is exquisitely sensitive to these unwarrantable sources of irritation, and, nevertheless, in which we find no morbid condition whatever in the nose. Yet, again, although there may be abnormalities in the nose, they do not justify our saying that the hay fever is actually caused by such abnormal conditions. Rather may we assert that when the affection has persisted for many years it may actually lead to pathological conditions.

Now, I must enlarge a little further on these points. We may have abnormalities in the nose interfering with respiration, yet in themselves not necessarily pathological, but merely malformations. We may have many forms of obstruction to respiration from hypertrophy (rather than hyperplasia), bending, twisting, and so on of the septum. These are common causes of obstruction, and when they occur to any extent they more frequently obstruct the inferior meatus. And it seems to me, rather from clinical observation than from any theoretical consideration, that it is essential that these patients should breathe perfectly easily through the inferior meatus. In all patients there is a strong instinct to breathe through the nose rather than through the mouth, often in spite of grave obstruction, though perhaps the instinct does not assert itself so forcibly in adults as in children. When the inferior meatus is obstructed, the inspired current of air, instead of passing along the less sensitive portions of the nose, is drawn up into the middle meatus, which is far more sensitive and irritable than the lower. So that in many cases of hay fever the history is this: at the

starting-point we have the idiosyncratic hyperæsthesia, the consequence of which becomes more serious if the inferior meatus be obstructed; next, as the consequence of the continued irritation, we get actual hyperplasia of the inferior turbinated bodies and of the septum. We may find ultimately all these conditions, which, you will observe, I look upon as the result rather than the cause of the symptoms. Nevertheless, I am bound to admit that these cases, where we find real hyperplasia, are quite as good for surgical treatment as those in which we must admit that our obstruction is structural rather than pathological.

As to the conditions under which the affection may begin we have other predisposing causes as well as the immediate attacks of dust, pollen, and so on. In the first place there is *climate*: hay fever occurs in temperate latitudes, being in tropical countries almost unknown. Then we find that the idiosyncrasy is confined to certain *racés*, being almost limited to the Anglo-Saxons and the associated portions of the Celtic race: the Irish are certainly not exempt. Then we find *heredity* as a factor in the causation of the condition. I have in my books the case of a mother and two daughters who suffer from hay fever; a third daughter suffers from paroxysmal sneezing all the year round, although she does not have hay fever; and a son has nasal asthma—all these cases pointing to abnormal conditions of the nose. That is perhaps the most marked instance I can give. Sajous maintains that in 35 per cent. of all his cases there was well-marked evidence of heredity, and that 42 per cent. had asthmatic relatives. Next we find also that *class* has much to do with the tendency to sneeze—the educated classes being much more prone to the affection than the uneducated. Mackenzie says that he never had a case among his hospital patients; but the hospital class is becoming better educated every day, and they certainly suffer now from hay fever, thanks, I suppose, to compulsory education! Then *town-dwellers* are more prone to it than country gentlemen, though I have seen several instances among the latter with not much brain and plenty of good blood. *Sex*, too, makes a difference, men, strange to say, being more prone to the affection than women. All cases I think must be admitted to be neurotic, even the country gentlemen of whom I spoke just now. Well, among other causes of predisposition, the long existence of catarrhal conditions renders patients

more sensitive to those forms of irritation which occur in the summer. Of the direct sources of irritative attack, of course the pollen of grasses, especially of rye grass, is the most common, beginning to harass its victims about the first week in June, sometimes earlier or later according to the degree of advance of the season. So early is the present spring that I already hear of a few cases. The rag-weed is confined to America, and as I have already remarked it does not begin its work until the autumn.

Other patients are sensitive to nothing but roses. I know a lady who always goes out to dinner with some trepidation for fear there should be roses on the table, in which case she would have to leave the table before the dinner was over. She did not mind hay or any other form of pollen. MacKenzie tells of one of his patients who was so sensitive to the influence of roses that the sight of an artificial one was enough to set her sneezing violently! There could be no question as to the idiosyncrasy here! While the hay fields are the misery of most patients, less commonly the moors and heather will make some men suffer when they go grouse-shooting. Then we find others who begin sneezing when exposed to the bright sunlight at sea, though the latter gives immunity to others who suffer from vegetable sources of irritation. There is another pollen in Australia which has a similar effect, flourishing in the spring, about September, but whose virtues in this line have not hitherto been recorded. I believe it is known as the Cape-weed. It covers the hills round about Adelaide to the height of some thousand feet or so. It is a composite, and the pollen is so profuse that after driving for two or three miles in the country, the sides of the carriage will be covered with its yellow dust. A lady has told me that most of the population of Adelaide are affected with hay fever during the time of the blossoming!

Certain other people again only suffer from animal sources of irritation. One patient tells me she always sneezes when a cat comes into the room; and I know two others who suffer from sneezing when in contact with horses. One told me that if he patted a horse with a gloved hand, and two or three hours afterwards inadvertently put his hand to his face, he would immediately be seized with a violent paroxysm. He could drive one horse with comfort, though tandem or four-in-hand would soon cause such sneezing and running from the eyes as to make it impossible. He told me also

of a cousin in America who suffered in the same way: he took his pleasure in shooting, but as his preserves were some miles away from his place, he had to drive. Yet he would be sneezing so violently all the way, that he became so exhausted that the game had the best of the fun! He, however, overcame the difficulty by taking in the buggy with him a watering-can with a big rose; and by watering the back of the horse occasionally as he went along he warded off his enemy!

The symptoms usually begin with a violent paroxysm of sneezing on waking early in the morning, sometimes coming on suddenly and sometimes more gradually. Occasionally for many days before it actually begins the patient will experience a feeling of irritation about the inner canthus of the eye, which he is impelled to rub continuously, or an itching about the alæ of the nose. In one of my patients the earliest symptom is a curious coldness and pallor of the nose, which, though it is warm, sunny weather, he has to rub to restore the circulation. Sometimes the sneezing will last only for a few minutes, sometimes for many hours, and it is always followed by a profuse flow of water from the nose; a patient will tell you that he saturates a couple of towels in the space of half an hour, after which he is naturally quite exhausted. Terrible indeed is the collapse that sometimes follows. I do not think I have seen people in greater misery than those suffering from hay fever, strong men becoming perfect wrecks after six or eight weeks of the symptoms. The usual duration of the affection is about six weeks, sometimes a little longer, but many of the patients remain prostrated for a long time after the actual symptoms have subsided. Of course, if they go out of doors during these weeks the symptoms become aggravated, especially if there is wind and sun, so that they have to wrap themselves up in a very extraordinary way with thick veils of gossamer over their faces, blue spectacles, large bits of cotton-wool in their noses, and green umbrellas. A good many of these patients suffer from more or less sneezing all the year round, these being especially cases where the continual attacks of hay fever have induced actual hypertrophy of the inferior turbinated body. You may sometimes find a patient who is sensitive to every source of irritation, not only to pollen in its various forms but to emanations from animals. They suffer continually from dust; they cannot take a book from the bookshelves for fear of the dust

setting them sneezing; they dare not go near a feather bed or into a room after it has been dusted; and so on. The slightest changes of temperature will cause a little extra swelling of their mucous membrane, adjacent surfaces will come into contact, and thus will the same train of symptoms arise even without the introduction of any irritating substances.

A few words about the asthma of hay fever patients. Usually it is a later symptom; the sneezing has persisted for ten days to three weeks before the asthma begins, and sometimes the hay fever abates when the asthma is fairly established. This probably occurs as soon as the swelling in the nose becomes so pronounced that nasal respiration is no longer possible. But the bronchi themselves become thereby more exposed to the pollen, etc. Yet I must confess that many patients suffer from asthma alone without any sneezing symptoms at all, and it seems to me that these are generally cases of permanent obstruction to nasal respiration.

Now, a word or two on prognosis, remarks which will inevitably include some references to treatment. In cases where we can find neither structural nor pathological abnormalities, where we find neither hypertrophies nor hyperplasias, the prognosis is bad. All you can do for such patients is to mitigate their symptoms as much as possible. The cases that are best are those in which we find something to operate on, and the bigger the thing we find, the better the prognosis. As far as the actual duration of the disease is concerned, that is, whether the patient has suffered for few or many years, I do not think it affects prognosis in the least. The most striking case of cure I have had was the worst case, without exception, I ever saw of hay fever—a man of intensely active mind, and an intensely neurotic temperament. For thirty years the whole of the summer had been a misery to him; yet he was completely cured by an operation which took me two minutes to perform. He has now been through three summers without any trouble at all. It was a case of ecchondrosis of the septum; and, apparently, restoration of respiration through the inferior meatus completely cured him. I do not think, either, that the general condition of the patient affects the prognosis. It does not matter whether he is very neurotic or not. To differentiate a little further: the most suitable cases for surgical treatment are those in which we find the inferior

meatus obstructed either by ecchondrosis or exostosis, or by true hyperplasia of the erectile tissue; next to these come chronic engorgement of the inferior turbinated. Less amenable are cases of polypus obstructing the middle meatus; and it is the fact of having seen in three or four cases of hay fever polypi in this situation, the relief after operation not being very great, that has made me infer that the special thing which we must hope to do is to restore respiration through an obstructed inferior meatus. Then we have cases in which there is no actual obstruction in either inferior or middle meatus; such are localised swellings of the septum opposite to the anterior extremity of the middle turbinated; we often find here curiously ill-defined swellings which obscure the view and bring the septum into contact with the middle turbinated. They are curiously boggy, and pit under pressure, the pit being rapidly obliterated; they collapse under Cocaine in a few seconds. Cauterising of these little boggy swellings is often attended with the happiest results. Presumably in these cases the trouble is due to direct irritation, which induces swelling of the mucous membrane where it abuts on the middle turbinated, and thus evoking the whole train of symptoms. These on the whole are good cases to treat. Let me repeat once more that the worst cases for treatment are those where we can find no structural or pathological abnormality to deal with.

Where there is a need for operation we should advise our patients to have it done, but at the same time we should tell them that it is impossible to be absolutely sure of effecting a cure. We seldom get an *absolute* cure. For instance, the patient of whom I was just speaking was so far cured that he would walk out into a hay field to see if it made him sneeze or not—and it did, though of course, this was an immense improvement on the former condition in which he would not dare go out of doors all through the summer. You will find that the bad cases will readily submit to surgical treatment; those who will not, do not really suffer very much.

Now in cases where surgical treatment does not promise much, what can we do? The first remedy is one I mention only to warn you against: it is Cocaine. The mischief it does is sometimes appalling, and the patients at the end of their summer after using it, are generally invariably worse than if they had not used it at all. But the temporary relief it affords is unquestionable.

I do not think that a man ought to prescribe Cocaine, any more than a patient should be allowed to use hypodermic injections of Morphia. Although they begin with a 2 per cent. solution of Cocaine, they are compelled to increase the strength until they end with a 30 per cent. solution. They carry about their Cocaine spray wherever they go, and as soon as they feel the least irritation, up it goes. But finally they become nervous wrecks; I have seen two such cases in medical men, one of whom appeared to be developing symptoms of general paralysis. So that we must not prescribe Cocaine. What other local remedies have we? Well, there is the old-fashioned Compound Tincture of Benzoin, the Bismuth and Morphia Insufflations, known as Ferrier's Snuff, either of which may give relief. I think, on the whole, Ferrier's Snuff is preferable to Cocaine, although it does not arrest symptoms as decidedly. Sprays and lotions of Borax are very soothing indeed, doing a great deal of good by washing away accumulated secretion, and the patient always likes them. The solution used is one containing three to five grains to the ounce of distilled water. The best plan is to tell the patient to take the solution in a teaspoon, to hold the head back, and simply pour it into the nose.

Another remedy used in three or four of my cases has been a solution of Chromic Acid, $\frac{1}{8}$ or $\frac{1}{4}$ of a grain to the ounce, sprayed or poured into the nose three or four times a day or oftener, and held in the nose as long as possible. I have one patient who will carry about her spray of Chromic Acid just as others will carry about their spray of Cocaine. Another patient after two or three weeks' use of it seemed to be completely cured, and got no return of the symptoms the following summer. A good deal was talked a few years ago of using Bi-chloride of Mercury. Dr. Carl Genth used it in a 1 in 3,000 solution dropped into the eye, and allowing it to pass thence into the nose; I have heard two or three practitioners speak highly of it, and I have every reason to think it worth trying. Carbolic Acid has been much vaunted as a cure; but I have seen so much mischief accrue from its incautious use that I cannot recommend

it—at any rate so long as we have safer and more certain means of treatment. I have heard one patient speak of the quite awful sufferings he experienced after using Carbolic Acid as a topical application.

Another point in the treatment is that all these patients require feeding up, and are probably the better for some stimulant. Various nerve tonics are also useful, like Nux Vomica, Valerian, and Assafoetida. Rather than give the patient Cocaine, it might be wiser to allow the Opium pipe. Of course it is a risky thing—patients get fond of it, and I have never had to prescribe it; but its power of controlling the worst symptoms is beyond all question.

Finally, let me remark that I believe most of the worst cases are amenable to surgical treatment, which I am bound to confess has surpassed my expectations in its often truly marvellous effects!

THERAPEUTICAL NOTES.

Smelling-bottle for Cold in the Head.—Dr. Tucker Wise has found the following highly satisfactory: Fill a wide-mouthed ounce bottle with coarsely pounded Carbonate of Ammonia, and add Eucalyptia, 3ss, dissolved in Spirits of Chloroform (double strength), 3iss. This bottle should be applied to the nose as ordinary smelling-salts every half-hour, and the pocket-handkerchief be used gently when absolutely required, not violently trumpeting the nasal organ on every occasion that the passage becomes blocked. With the addition to this simple treatment a hot foot-bath may be taken, and steam inhalation at night.—*Med. Rec.*

Effect of Antipyrin on Teeth.—According to the *Dental Journal* the internal administration of Antipyrin causes the teeth to become black. This discoloration is more intense when the enamel is defective, nevertheless experience has shown that the best remedy against it is to thoroughly wash the mouth out with a dilute acid after each dose.

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THE CLINICAL JOURNAL.

WEDNESDAY, APRIL 19, 1893.

A CLINICAL LECTURE

ON THE

PASSAGE OF FOREIGN BODIES THROUGH THE ŒSOPHAGUS, STOMACH AND INTESTINES.

Delivered at St. Bartholomew's Hospital, March 17th, 1893,

By W. S. OHUROH, M.D., F.R.C.P.,

Physician to the Hospital.

FOREIGN bodies of all sorts are continually being swallowed, but happily it is not often that serious results follow their ingestion. By foreign bodies, I mean those which are not acted on at all by the gastric and intestinal secretions, or ones that are only partially and slowly affected by them, or are not from their natures capable of being broken down and dissolved in the stomach and intestines.

The removal of large objects, such as sets of false teeth, large fragments of bones, etc., from the pharynx and œsophagus, belongs to the province of the surgeon; but it is well for you to remember the possibility of false teeth being impacted when swallowed during an epileptic fit, or in sleep, or when accidentally dislodged by a fall or blow. Very serious symptoms and even death have arisen in this way, without the cause being suspected.*

It is not my intention to-day to speak of those extreme cases in which lunatics and others have converted their stomachs into marine store dealers' shops, and filled them with bent pins, old iron, hair, string, and all sorts of other rubbish; nor of those who, for suicidal purposes, have swallowed knives, forks, spoons, pieces of wood and other large objects; but of ordinary cases, such as are usually met with in children, which may occur to any of you in the course of daily practice. A case in an adult is now in Matthew Ward.

Edward W., aged 52, admitted on March 7th. He was quite well until the day before, when he had a sudden attack of pain in the abdomen, back, and

the right lumbar region; he vomited once or twice; the pain passed down into the right testicle. On March 7th he had a precisely similar attack, with a desire to micturate, and pain in the penis during micturition. His bowels had acted after a dose of salts.

Condition on admission.—Looks quite well. Pulse 60, regular, good volume. Temperature and respiration normal. Tongue clean. Urine normal. Some pain and tenderness in the lower part of the belly. During the morning of the 8th he appeared quite well, but in the afternoon he had an attack of pain in the right side of the abdomen and back, and another attack at 1 a.m. on the 9th, more severe in character and accompanied by pain shooting into the testicle; frequent attempts to micturate, only a few drops passing at a time with great pain in the penis. When examined on the afternoon of the 9th no swelling nor tenderness was found in the right renal region, but there was some pain and slight tenderness in the right groin. In the evening of the 9th he had another severe attack of pain precisely similar to that at 1 a.m.: quickly relieved by a hypodermic injection of Morphia. On the 10th and 11th he had no severe attacks, but still had considerable pain on micturition and frequent calls to pass water. On the evening of the 11th, while at stool, he had severe pain in the rectum, which remained, and some hours afterwards the patient himself removed a fish-bone, which he felt in his anus. This relieved the pain, but he had considerable discomfort all through the night, and during the 12th and 13th the pain and difficulty in passing water continued. On the 14th, as the pain in the rectum continued, Dr. Coles (the house physician) made a rectal examination and removed another fish-bone, and introduced a Morphia suppository. After this he rapidly improved, but was not free from urethral pain and irritation until the 18th.

This case differs in some respects from what usually occurs after the ingestion of foreign bodies of small size and elongated shape. W— suffered severe pain before the fish-bones reached the rectum. In by far the largest number of cases, when foreign bodies, such as the fish-bones now going round, give rise to any trouble at all, it occurs at

* Vide "Lancet," April 3rd, 1869; and, Mr. Weiss's paper, Odont. Soc. Trans. vol. ix.

the very end of their journey through the bowels. Usually no pain or discomfort is felt, until sudden pain is experienced in the rectum, and most frequently this occurs either in the very act of or in an attempt at defæcation. The contractions of the bowel forces the foreign body into the wall of the rectum with so much force that it remains there, and unless removed it sets up abscess, and may remain a very long time before it makes its way out. Mr. Goodsall has collected and published in the *Hospital Reports** twenty such cases; in the large majority of these the foreign bodies were, as in the present instance, fish-bones, and when a history is given you will find that in most cases no symptoms manifested themselves until the foreign bodies had reached the anus. The pain which is usually, as I have already said, first felt on an attempt at defæcation, is sometimes very severe, and is more or less continuous, and often increased by sitting down.

Although the rectum just above the anus is the most frequent place for these small, sharp, elongated bodies to stick and give rise to serious symptoms they do occasionally become fixed in other situations. In the pharynx, for instance, where they can be seen and removed, or in the œsophagus, where their presence may cause death in one of two ways: either by causing ulceration and setting up an abscess in the connective tissue around the œsophagus, which makes its way downwards to the mediastina and sets up fatal pleurisy or pericarditis, or more directly by causing ulceration and perforation of the walls of a large blood vessel, and so giving rise to fatal hæmorrhage. I show specimens Nos. 1376, 1866, 1867, in which death has been brought about in each of those ways.

Sharp-pointed substances of small size do not seem to be very liable to stick in the walls of the stomach, at all events I know of no recent instances; they do occasionally, though rarely, stick in the walls of the small intestine, for I have seen a case in which after death a fish-bone was found, which had perforated the walls of the small intestine, and had one end projecting into the peritoneal cavity, whilst the larger portion still was within the bowel. This condition had given rise to no symptoms, and death had occurred from quite other causes.

It appears to me somewhat remarkable that foreign bodies of this nature do not more often stick at the ileo-cæcal valve. Probably one ex-

planation may be that if they do, they are apt to cause an abscess, and are thus brought to the surface of the body. Cases are recorded where large elongated objects such as knife blades, pieces of pointed iron, etc., etc., have been removed from abscesses in the groin, but I do not remember coming across any case of a small body such as a pin, fish-bone, or splinter of wood, being removed in this way.

The vermiform appendix sometimes becomes the resting place of these bodies after they have passed the valve. I show you here a specimen, No. 2032, which I removed from the body of a man, aged 43. Here the pin is comfortably resting in the vermiform appendix, encrusted with a thick layer of earthy material, and its point projecting freely into the cavity of the cæcum; it has apparently set up no ulceration or other mischief, though it must have been impacted for a long time; in this specimen, No. 2033, a nail has set up ulceration and sloughing of the appendix, and was the immediate cause of death. Similar specimens are to be found in most pathological museums.

It is in the very last part of their journey through the body that the liability to impaction especially occurs, and you can find many cases of bodies being removed from the rectum after having traversed without difficulty the whole of the digestive canal. At the same time it is extraordinary how some sharp-pointed bodies are conveyed safely and painlessly to the anus and through it. Some years ago Dr. Dickinson exhibited at the *Pathological Society** a large shawl-pin, which a child of between two and three years of age was seen to swallow; three days later the point of the pin was seen protruding from the anus; many somewhat similar cases are recorded of the passage of pins, needles, and other sharp bodies, through the bowels.

Rounded bodies, such as beads, marbles, bullets, fruit-stones, etc., pass, as you would expect, with ease, although occasionally they give rise to fatal results. Here is a remarkable preparation (No. 1867 b), where a marble became impacted in the œsophagus of a little child and ulcerated through into the connective tissue. Flattened rounded bodies, such as coins, do not seem to pass so easily as more spherical bodies, and hence it is that coins are the most frequent of all bodies to become impacted in the œsophagus; most of the cases occur in children, and are due probably to

* Vol. xxiii., p. 71.

* *Transactions Path. Society*, vol. xxi. p. 169.

the comparatively small size of the gullet in them. Instances of half-pence being retained for a lengthened sojourn in the œsophagus in children are not so very rare, but I only know one case in an adult. It is recorded by Mr. Bradby;† a man attempted to swallow a bad half-crown, which became impacted in the œsophagus, and apparently did not cause serious symptoms, as its presence was not suspected by those in charge of him; it caused death seven months after his incarceration in Pentonville Prison, death occurring suddenly, with profuse hæmoptysis.

Coins and similarly flattened and rounded objects are apt to remain for long periods of time in the stomach; a five-shilling piece has been known to remain for eighteen months, and then be recovered by vomiting. In another case a child swallowed a button, and more than a year afterwards swallowed a second, which was immediately returned along with the first by vomiting.

I would refer any of you who are interested in the subject to Mr. Poland's article in vol. ix. of the third series of "Guy's Hospital Reports;" he has there collected from the annals of medicine numerous extraordinary cases; I would also refer you to Mr. Weiss's paper in the "Odontological Society's Transactions," vol. ix., and to a paper by myself in vol. xix. of our Reports.

Now let me turn to the treatment of these cases. When a foreign body, whatever its nature may be, becomes impacted either in the pharynx, œsophagus, or intestine, it belongs to the surgeon rather than the physician to deal with it, and I shall not make any remarks on this part of the subject further than to warn you most earnestly to avoid, in the case of objects like false teeth and other irregularly-shaped and sharp-pointed bodies which may become impacted in the œsophagus, attempting to force them onwards to the stomach. In such cases, when they cannot be withdrawn by reasonable force through the mouth, œsophagotomy is the safest course.

What should be the treatment when a child has swallowed a pin or button, or any other of the multitudinous objects which find their way into children's mouths?

Firstly and foremost, avoid the common error often committed by the mother before the doctor is called in, of giving Castor oil or some other aperient. Here we may learn a useful lesson from the utterers of counterfeit coins, who habitually,

when in fear of detection, swallow counterfeit shillings, sovereigns, and other coins. So far from taking aperients these fellows, taught by experience, adopt an exactly opposite plan, and make use of a constipating diet: cheese in large quantities, and hard boiled eggs, are, I believe, their usual remedy. I would not recommend you to make use of these exclusively, but you should advise the use of food which, whilst unirritating, leaves a large and bulky residue behind it, oatmeal, in the shape of porridge or gruel, is suitable, brown bread, potatoes, suet dumplings, etc. Olive oil, when taken in large quantities, not infrequently forms gummy masses when acted on by the intestinal secretions, and these may tend to collect around a foreign body and thus wrap it up in a soft covering and favour its harmless passage through the bowels. As the ingesta usually pass down the colon in from 24 or 36 hours, if the bowels do not act within two or three days after the foreign body has been swallowed, it is then advisable to give a dose of Castor oil in the hope that along with the bulky fæces the foreign body may be safely expelled.

A CLINICAL LECTURE

ON

LEUCORRHOEA.

Delivered at the London Hospital,

By G. E. HERMAN, M.B., F.R.O.P.

Obstetric Physician to the Hospital, President of the
Obstetrical Society.

GENTLEMEN,—The subject of my lecture to-day is leucorrhœa. First, what is leucorrhœa? The word is the Greek equivalent of the term "whites." In common use it means any discharge from the vulva which is not blood. Any closer description than this is difficult to give, because, first, the diagnosis of the discharge in most cases has to rest on the patient's description of it, and this is not always accurate; and next, the character of the discharge may vary from one week to another, being sometimes white and sometimes yellow.

Before considering the abnormal secretions, it may be well to briefly enumerate the normal ones. There are four parts from which normal secretions flow—the body of the uterus, the cervix uteri, the vagina, and the vulva.

The secretion of the *body of the uterus* is

† "Medical Times and Gazette," 1868, p. 447.

believed to be a clear, watery, colourless fluid; but we know very little about it, because we see it during life mixed with the secretion of the vagina and cervix, and we can only judge of it from the fluid found in the uterus at post-mortem examinations. In health it is not great in quantity, and not very important. Then there is the secretion of the *cervix*. The cervix contains so great a number of glands that it is practically a large gland; and these glands secrete a clear, transparent, glairy fluid like white of egg. You may see it with a speculum, clinging about the cervix. The secretion of the *vagina* in healthy young virgins can be seen lying in the folds of the vagina, looking like unboiled starch mixed with water. (There has been some discussion about the secretion of the vagina which illustrates the difficulties of the question. Some authorities think that there is no vaginal secretion at all, and this opinion is founded on the fact that on several examinations of the vagina being made, no glands were found; but, on the other hand, many observers have found glands, and positive evidence outweighs negative. There are cases in which the vagina is closed by transverse septa. The parts of the vagina thus cut off are found filled with mucus, and this shows that there is a vaginal secretion.) Lastly, there is the secretion of the *vulval glands*, which, as we see it, is a yellowish material very much like the sebum inside the male prepuce.

Now, as to the *quantity* of mucous secretion which is pathological. We know nothing exact about that; we have no way of measuring the amount these different glands secrete in a state of health. The secretions travel down the vagina to the vulva, and there they evaporate, and I can give you no other definition than that when the leucorrhœa makes the patient moist and produces discomfort, it has reached a pathological amount.

Looking at the disease as it affects females at various ages, let us take first, *children*.

Vulvitis in children is not uncommon, and this is the chief cause of leucorrhœal discharge in them. As to its causes we know very little; it is put down to worms and to dirt, but I do not think that these causes are so potent as is supposed. Many poor children, for instance, who are not kept clean, never get it, while children in the upper classes often do. Nor is worms a frequent cause; as you often find that a child has worms without having this disease, or has the disease without having worms. It seems rather to be due to constitutional

causes, but as to what they are we really know nothing. It is said to be common in strumous children, but I know of no evidence of the fact, and I know no exact definition by which you can recognise a strumous child with sufficient accuracy to test the question. The vulvitis of children is important for two reasons: first, it may give the mother the idea that gonorrhœa has been communicated—an idea that has led to the trial of innocent persons. Therefore, I would emphasize the fact that vulvitis with purulent discharge occurs without the slightest contamination of the sort. Second, it causes itching, and the child may be thereby led into masturbation; therefore, it is important that it should be properly treated. The treatment of this vulvitis is very simple, and like most diseases of children, this one is characterized by the quickness with which it yields to treatment. All that is necessary is several times daily to wash away the discharge and bathe the mucous membrane with some sedative or astringent fluid. There are many such. I find that a saturated solution of Borax is about the best. The best way of administering it is with the male syringe; the nozzle of the male syringe is placed in the vagina of the child; it washes away the discharge and bathes the part. With treatment of this kind, the vulvitis will soon get well. This is the only common kind of leucorrhœa in children.

Now, as to leucorrhœa in *virgins*.

It is very common in young women to get slight leucorrhœa from time to time. This discharge is similar in kind to that of catarrh of the nose and catarrh of the bronchial tubes. It consists in these diseases, first, of a clear mucus, and as the catarrh goes on, it gets more purulent. So catarrh affects the vagina, and, for a few days, there is leucorrhœa, and probably the variations are the same as in the case of the nose. No observations have been made on the point, because patients do not submit to frequent examinations for such slight affections as these. Some suffer from persistent leucorrhœa. This, like nasal and bronchial catarrh, is more common in anæmic girls than in those whose blood is healthy. In anæmic subjects the morbid phenomena form a vicious circle, the loss of albumen rendering the anæmia worse, and then the anæmia in its turn acting on the leucorrhœa and making it worse. Struma is said to be a cause of leucorrhœa in virgins. We know that there is such a disease as struma, and that local inflammations are common in this condition, but I know of no

facts by which it has been demonstrated that leucorrhœa is directly dependent on a strumous condition. Then there is another class of cases, in which you find profuse and painful menstruation, with ovarian and uterine pain, and with copious leucorrhœa, and without any more obvious sign of disease than that. This is sometimes described as 'endometritis, the evidence being hæmorrhage and leucorrhœa. Sometimes in this condition you find no sort of morbid change, either in the vagina or cervix; sometimes you find erosion of the cervix, but this is rare in virgins. I know of no evidence that in such cases there is inflammation. The only explanation of their pathology that I can give is that there is excessive congestion of the pelvic organs. The investigation of the causes of such congestion is, in virgins, a task of extreme difficulty; indeed often impossible. In such an inquiry, in such patients lady doctors have advantages over us, and perhaps some day they will enlighten us about such cases.

Local treatment of leucorrhœa in the virgin is seldom called for; still less frequently local examination. In the virgin local examination is only called for if the leucorrhœa is so copious that it is a considerable discomfort to the patient, and the ordinary treatment prescribed without examination fails to check it. Examination with the speculum, to find out or treat disease of the cervix, is not called for unless there is something more than leucorrhœa.

The disease often called fungous endometritis, but which should be more correctly named adenoma of the body of the uterus, sometimes occurs in virgins. It causes not only leucorrhœa, but hæmorrhage. Cancer and fibroids occur sometimes in the virgin, and cause leucorrhœa, but they cause other symptoms as well. A mucous polypus sometimes grows from the cervix in virgins, and this may cause leucorrhœa.

If local treatment is required it is the same as that for leucorrhœa in the married.

I now come to speak of leucorrhœa in *married women*.

The commonest cause of all is child-bearing. Leucorrhœa is much more frequent in women who have had children than in those who have not. If you ask the women who come to the hospital with this complaint how long they have had "whites," most of them will say they have suffered from it since a confinement. In pregnancy the vagina becomes large, thick, soft and

vascular. After child-bearing involution of the vagina takes place; it ought to return to its former dimensions, but it often does not. With increased thickening and vascularity that remains there is first hyper-secretion of its glands, and, secondly, the patient becomes more easily affected by the causes which lead to inflammation. Often on examining women eight, nine, or ten weeks after delivery you find the vagina red, injected, easily bleeding, and containing pus: puerperal vaginitis. Leucorrhœa may be due not only to vaginitis but to erosion and inflammation of, or to growths on the cervix, to which women who have had children are more liable than women who have not. The discharge is generally diminished by vaginal injections without applications to the cervix, and therefore I think the bulk of it comes from the vagina and not from the cervix. A woman who has had children may without evident morbid change in the cervix or vagina, get vaginal and cervical catarrh just as the virgin may, so that what I have said about virgins in this respect also applies to the parous woman.

A much less common cause is infection of the vagina by gonorrhœa. A gonorrhœal discharge is roughly distinguished from discharges of other kinds by characteristics which, when well-marked, leave you in hardly any doubt as to its nature, but which do not enable you to draw distinct and sharp lines with reference to it. The two most prominent are, first, the suddenness of its onset, and, secondly, its profuseness, and the great redness of the discharging parts. These points make you practically certain that the discharge is a gonorrhœal one; I say *practically* certain, not absolutely certain, because you cannot possibly be certain, from these features, that a particular discharge is gonorrhœal. Discharges from other causes are sometimes very profuse; and as to the suddenness of the discharge you may be misled by the patient, and so it was not possible until recently to make quite sure. It should be noted that just as urethritis may be produced in the male by connection with a female who has not got gonorrhœa, so may vaginitis be produced by sexual intercourse without gonorrhœa. Recent research has given us a mode of determining with, it is said, absolute certainty whether a discharge is gonorrhœal or not. This consists in the recognition of the microbe which causes the gonococcus of Neisser. In the work of Dr. Sinclair of Manchester you will find directions

given for detecting it by the help of reagents. An expert microscopist, who has looked at a quantity of pus which is not gonorrhoeal and a quantity which is, has assured me that he never finds the slightest difficulty in identifying the gonococci, which adhere to the pus corpuscles.

Just as gonorrhoea in the male often leaves chronic gleet behind it, so may gonorrhoea in the female leave behind it chronic leucorrhoea, which presents no special characters by which you can distinguish it from leucorrhoea due to other causes. You can only judge of its origin by the history. I know of no observations which inform us how long after gonorrhoeal infection the gonococcus is to be found in the vaginal discharge. There are other sequelæ of gonorrhoea, but they are outside my present subject.

There are new growths, occurring chiefly in parous women, which cause leucorrhoea among other symptoms. I shall not go into the diagnosis of these growths because they call for treatment for hæmorrhage and not for leucorrhoea. But the relation of leucorrhoea to cancer is of extreme importance, because often leucorrhoea is the first symptom of cancer, an earlier symptom even than hæmorrhage. In a woman who has had children and is past 30, any unusual and persistent leucorrhoea calls for examination. I do not say that it is generally an indication of cancer, and you should not speak of that disease to the patient, but vaginal examination should be made because the discharge may denote the commencement of cancer.

In the parous, cancer of the cervix is common. The objections to vaginal examination are slight. The only chance of curing cancer of the cervix is by its very early diagnosis. Hence the rule I have ventured to lay down.

It is possible that leucorrhoea in the virgin may be the beginning of cancer, but it is very unlikely, for cancer of the cervix is rare in the virgin. Cancer of the body (which occurs in the virgin) may have leucorrhoea as its first symptom, but in this form it is long before the disease so involves neighbouring parts that its removal is impossible. Hence little harm will be done by waiting for clearer indications. Considering the strong objections to vaginal examination of virgins, and the rarity of cancer of cervix in them, it seems to me that it is better that very, very seldom a case of cancer of the cervix in a virgin should be overlooked, than that every virgin who has leucorrhoea should be examined.

A discharge which the patient may call "whites," but which is purulent, may come from the bursting of an abscess into the vagina or vulva. Such an event will be preceded by local pain and, if the abscess be a large one, febrile symptoms; and this should mark the case off from ordinary leucorrhoea, and guide you to make a careful examination.

As to the effects of leucorrhoea, it weakens the patient, but neither in the virgin nor the parous woman is the injury to the strength very great from that cause alone. Much pruritus or even soreness of the vulva may occur. One of the old theories about erosion of the cervix was that it was caused by some corrosive secretion that flowed from the body to the cervix and there dissolved the epithelium. We now know that it is an adenomatous growth, and not a dissolution of the epithelium; but I mention this to show you how irritating the effect of the secretion may seem to be.

As to the treatment, in the great majority of cases treatment of the vagina is enough to bring the discharge at least within bounds compatible with health and comfort. Therefore, the use of vaginal injections is indicated. It is much better to give them with a douche tin than with a syringe, because the continuous flow from a douche tin is gentler than the intermittent jet from a syringe. Vaginal injections are sometimes employed to bring on labour or miscarriage, therefore be careful in advising the frequent use of a syringe for a pregnant woman. Tell the patient to douche the vagina with water before using the lotion you prescribe, so as to secure the lotion bathing the surface more thoroughly than it would if the vagina were filled with discharge. The injection should be used when the patient is on her back. The reason is that when the patient is lying on her back the vagina slopes backwards and downwards, and gravity causes the fluid to fill the canal, but if she is in an upright position the vagina recedes upwards and backwards, and the fluid may run out without bathing every part of the vagina. Tell the patient to lie on her back with her hips higher than her head. There are one or two other little points of no importance medically, but useful practically. Tell the patient either to get a "ladies' bed bath," or else to put a mackintosh over the side of the bed, and make a sort of gutter in it so as to conduct the fluid into a vessel beneath; then to lie on the mackintosh with her feet on two chairs, and in this position use the douche. As to the kind of lotion: in most cases of leucorrhoea it is a mistake

to give the patient strong astringent injections; they do apparent good for a time in checking the discharge, but as soon as the lotion is left off it begins again as badly as ever, so that their effect is only temporary. Use solutions as weak as will produce the desired effect. The kind of lotion depends upon the nature of the discharge; if there is great soreness and irritation a sedative lotion should be used, but otherwise an astringent. Among sedative injections, the best are Borax, or Boric Acid, or Acetate of Lead. The Boric Acid can be used in a saturated solution. The Lead you can order in a strength of 2 to 4 drachms of Liquor Plumbi Subacetatis to a pint of water. Among astringents, Chloride of Zinc or Tannic Acid. Prescribe a solution of 10 grains of Zinc Chloride to the ounce of water, and tell the patient to add a tablespoonful of the solution to a pint of water. The Tannic Acid can be used in a solution of 3 to 6 grains to the ounce. Prescribe it in powders—ʒj, ʒiiss or ʒij each, one to be dissolved in a pint of water. Women often use Alum without consulting a doctor; that is a reason for not prescribing it, because the patient very likely has used it before. If there is anæmia, that must be treated. You will do great good if you tell the patient (if you can truthfully do so) that there is nothing she need apprehend, because a patient with an ailment so slight as this comes to you very often as much for what she thinks she is going to get as for what she actually has.

There are certain morbid changes which more especially cause leucorrhœa in *pregnancy*. You sometimes find in pregnant women a peculiar condition known as granular vaginitis; the vagina is studded with hard, shot-like papules or vesicles; I believe they are inflamed vaginal glands. Very rarely these glands suppurate. I have seen one case in which the vagina was dotted with pustules. There is another still more curious change, in which the contents of these glands decompose, and the papules become little bladders containing gas, which gas escapes when you prick the cyst, with a slight report. Only two cases of this condition have been observed in England—one my own, the other that of Dr. Gervis.

I now come to leucorrhœa in *old women*. Such discharge is always pathological, because in the old woman the genital organs have atrophied, and therefore leucorrhœa in an old woman is generally copious, and an indication of distinct local disease. It may result from the excessive use of alcohol, in

which case the treatment is to cut off the alcohol. There is reason to suppose that it may be gouty in origin. I have seen an old woman who had a patch of eczema on her foot and also suffered from vaginitis, and she said—though I had not any opportunity of observing for myself, and therefore was obliged to accept the fact from her statement—that there was an alternation between the two diseases—that her foot got worse when the vaginal discharge got better, and that when the vaginal discharge became more profuse the foot got better. In so-called lupus of the vulva or esthiomene vaginal discharge is present. Lupous vaginitis is remarkable by its chronicity and tendency to recur, and identified by the past or present existence of lupous growth or ulceration. Dr. Matthews Duncan described a form of vaginitis which depended on “lupus,” though the changes of this disease might not be at the time present, but appeared subsequently. Leucorrhœa in old women does not always come from the vagina; it may be from the uterus. There are two diseases of the uterus that may cause copious leucorrhœa. You may get cancer in old women occurring in the body of the uterus, and showing itself by leucorrhœa. There is a disease of the uterus in old women which is not common, and that is senile endometritis. Its symptoms are very much the same as those of cancer—copious leucorrhœa and some pain, and there may be some hæmorrhage, though hæmorrhage is not so frequent as it is in cancer; but in many cases of cancer of the uterine body in old women hæmorrhage does not come on till comparatively late. In some cases it is impossible to say whether the disease is cancer or senile endometritis; and some of the best specimens of the latter have been uteri that have been removed under the impression that the disease was cancer. That, you might think, was a mistake of great magnitude, but it is really not so, for there was a case reported by Dr. Matthews Duncan, in which the patient until her death was supposed to be suffering from cancer. The disease ran a course exactly like that of cancer. There was a post mortem; no disease but that in the uterus which could account for death was found; microscopic sections of the uterus were made, but showed nothing but chronic endometritis. In cases in which it is doubtful whether the disease is cancer or endometritis, the best plan is the removal of the uterus without delay. I once had a case in

which the patient was supposed to be suffering from senile endometritis. The interior of the uterus was examined, but there were no projecting outgrowths that could be scraped off, and so nothing was done for a time. Eventually the uterus was removed, but not till too late, and in that case the disease turned out to be cancer, and not senile endometritis. It is therefore well to bear in mind that senile endometritis is very difficult to diagnose from cancer, and that it runs much the same course as cancer.

In this enumeration I have not mentioned any of the rare and out-of-the-way diseases. I have also said very little of endometritis in women while still menstruating, for the reason that in such women endometritis is generally an acute disease, and is thus a rare cause of chronic leucorrhœa. From the point of view of leucorrhœa it is only chronic diseases that one can speak of, for in acute disease the discharge is not the chief symptom that troubles the patient.

A CLINICAL LECTURE

ON

The Judicious Management of the Symptoms due to Enlargement of the Senile Prostate (Prostatic Hypertrophy).

Delivered at the London Hospital, February 8th, 1893,

By E. HURRY FENWICK, F.R.C.S.,

Surgeon to the London Hospital, Surgeon to St. Peter's Hospital for Urinary Diseases.

[VARIOUS photographic slides illustrating the different forms of prostatic hypertrophy, and the pernicious effect of the back pressure usually exerted upon the bladder and kidney by the obstructing outgrowth, having been demonstrated on the screen by means of a limelight lantern, the lecturer proceeded as follows]:—

Although the symptoms of prostatic hypertrophy, when taken in conjunction with the age of the patient, form so characteristic a clinical picture as to warrant the veriest tyro amongst us in attempting an off-hand diagnosis of the disease, yet the proper management of the symptoms, whether in their initial or progressive stages, is difficult, for it demands, and should involve experience, sound judgment, and careful forethought. Still more difficult is it to offer a reliable opinion as to the

chances of a radical cure by means of the operative removal of the offending portion of the prostate.

It is upon these two difficult sections of the subject—the treatment of the symptoms and complications of prostatic hypertrophy, and the question of the advisability of operative interference, that I wish to lay especial stress this afternoon, for no one who engages in general practice will be able to escape the responsibility of such a case, and all should be prepared by a well-grounded knowledge of the position and aim of prostatic surgery to tender his patient definite and judicious advice concerning the chance of obtaining relief by means of a cutting operation.

MANAGEMENT OF THE ONSET SYMPTOMS.

I do not apologise for touching upon this elementary subject, for I am convinced that few of you realise how easily future suffering and danger can be saved to the patient by the exercise of a little care and forethought in the treatment of the initial symptoms.

The patient who is suffering from the effects of prostatic enlargement will generally appeal to you for the relief of one of three symptoms*: Irritability of the bladder, or retention of urine, or incontinence of urine. Usually these three symptoms mark the three stages of progress in the early development of prostatic obstruction: irritability of the bladder finding a sudden climax in retention or in incontinence.

Let us take these three in their order.

Irritability.—The patient is about or over the age of 50.† He complains of an annoying but painless frequency of micturition at night. He is forced to rise two or three or more times to empty his bladder. At the same time he experiences a sense of obstruction to the stream, and he has to wait and coax the bladder before it will respond to the summons to evacuate. These symptoms are, as I have shown you, the index to a congestion of the neck and to a flagging muscle; but, in treating it, do not assume that the bladder cannot empty its

* A symptomless hæmorrhage from the prostate is an unusual onset symptom of enlargement of the prostate. When it does appear it not infrequently recurs throughout the course of the case, and often leads to much doubt in the diagnosis, vide Case 24, page 53, "Cardinal Symptoms of Urinary Disease."

† The symptoms may commence as early as 48, for the prostate, like all other parts of the body, does not keep accurate step with the registered age. In some the prostate tends to pass into its senile stage at 46, in others at 70. It is inaccurate and misleading to say that 55 is the earliest age for prostatic enlargement.

contents, for in a large proportion of such cases the bladder does rid itself very nearly of the contents by its repeated efforts.

Do not insist upon passing a catheter to test the amount of residual urine, but hold your hand for a while and see what muscle tonics will do. In many cases the bladder muscle only wants a little help, and you can aid them by the exhibition of *Nux Vomica*, or *Ergot*, or *Hydrastis Canadensis*. It is necessary also to caution you not to give *Belladonna* to quiet the irritability. *Belladonna*, at this stage, very frequently soothes the muscle to sleep, and though you may have some relief through its use for the time, it hastens the entrance to catheter life. You notice I give *Nux* the prior place to *Ergot*. *Ergot* needs careful watching in old people, and though it is often very valuable, I think, on the whole, you will have better results from the *Nux*. Some patients, however, cannot bear the drug. They are rendered sleepless, or have unpleasantly vivid dreams or twitchings of the muscles. In such cases you have recourse to *Ergot*, or you employ a few drops of the liquid extract of *Hydrastis Canadensis*. At the same time it is better to combine the muscle tonic you have selected with any drug which may relieve the congestion of the vesical neck. For this purpose *Sodium Salicylate* and the liquid extract of *Collinsonia Canadensis* will be found useful.

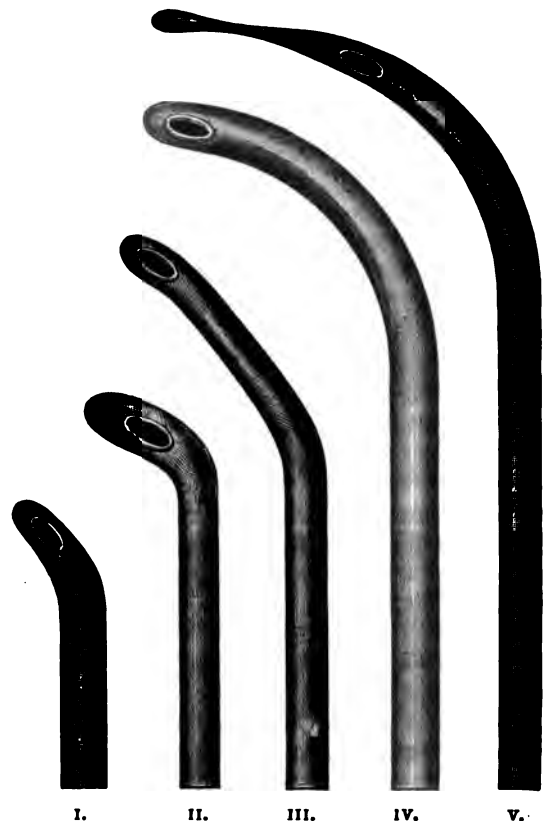
If pain accompany the initial symptoms a few drops of Battley's solution of *Opium* may be added.

The lower bowel should be kept empty.—The patient should sleep with the hips elevated, and any exercise or employment which favours pelvic congestion should be avoided. Should the frequency of micturition continue and increase, despite these efforts, the amount of residual urine must be carefully tested, and the patient introduced to catheter life if this be found to exceed three or four ounces.

Retention.—The patient may have neglected the prodromata of an enlarging prostate which I have just alluded to, and may not have sought advice, or, whilst in the best of health he may have incautiously exposed himself to a chill, or have induced congestion of the prostate in some other way, such as taking a little extra stimulant or neglecting to empty his bladder during a long railway journey; whereupon he finds himself unable to pass any urine at all, and after much distress and futile effort you are summoned to relieve him.

Now to *delay* in relieving a pronounced retention of prostatic enlargement by means of the catheter is a decided error of judgment. Hot baths may be all very well when the bladder muscle is young as not infrequently is the case when the retention of stricture is dealt with, but this Fabian policy is disastrous in treating retention of a man in the sixth decade. Every hour of delay at this age diminishes the chance of recovery of the bladder muscle, and, as you will see, the health of the vesical muscle is all-important. Be guided in your

FIG. 1.



choice of instruments by the form of the prostate as felt per rectum. If the patient has a small prostate per rectum it is certain that the obstruction you have to overcome is in the form of an intravesical out-growth of one of the lobes—usually the median—and the first instrument you select is a soft Jacques india-rubber catheter. If this impinges upon and cannot pass the lobe, select a No. 6 Eng. silk web coudée catheter, fig. 1, I. or II., the elbow of which will enable you to override the obstruction.

If *per rectum* you find the prostate large laterally,

and not very hard, probably you have to pass a bar at the neck, in which case a *bicoudé*, III., will succeed; or employ the red gum catheter* of English make fitted with a stylet. If your finger can hardly reach the summit of the prostate, the lengthened prostatic canal will form a concave sweep like the sacrum, and you must select a Courbé catheter, IV. and V.; and finally, if there is still obstruction with a very large prostate, and your catheter passes up to the hilt, and you do not withdraw water, it is better to try the large curved prostatic silver catheter.

Failing with instruments aspirate above the pubes.

A single catheterisation is often quite sufficient to check a first attack of prostatic retention, and the patient may go for months before he has another attack or the catheter may have to be passed for a week. The length of time for the continuance of the catheter depends on the condition of the muscle and the duration of the unrelieved retention. The longer the bladder is left to struggle against the closed orifice the more overstretched will the muscle become, and the greater will be the loss of muscular power. Hence the necessity for early relief.

Incontinence of Urine at night.—This is always a signal of danger. It denotes not only the existence of a large amount of residual urine, but also that an injurious backward pressure has been exercised for some time upon the ureters and kidney. Never undertake a case of this sort lightly, for if relief is to be afforded it can only be by means of the catheter, and this is nearly always followed, in those living in crowded towns and cities, by more or less constitutional disturbance.

What are the dangers?—Much has been written upon the need for care, warmth, and asepticity of the catheter. Believe me, Gentlemen, no amount of scrupulous care and forethought, no attention to detail, can prevent an occasional mortality. You will save a proportion, but a percentage will die, and the discredit will be at your door. A low form of inflammation of the bladder, which rapidly ascends the

ureters into the dilated kidneys—an ascending pyelitis, which is perhaps unmarked by any temperature, may remove your patient within the week. Thus, after the second or third introduction of the catheter, the patient feels chilly; he is restless, refuses food, and goes to bed early. His urine, which before the commencement of the catheter was clear, is now slightly murky, but acid. Next day the symptoms are still indefinite, the malaise and anorexia is perhaps more marked, the temperature may have risen to 100°; the urine contains a little pus and mucus, and bacteria of decomposition are seen in freshly drawn specimens. The next day the tongue is dry, the patient keeps his bed; he has been restless and talkative in his sleep during the night, but he knows you, and complains of his throat. A whitish patch may be seen on the tonsils—that is a septic patch. The patient now becomes rambling in his talk, only semi-conscious, and passes into a low state of muttering delirium with lucid intervals, moans when the catheter is passed, and occasionally groans as if in pain. The urine gradually decreases in amount, he becomes comatose, and dies. I have had two such deaths in my own practice, and have watched others.

There are other cases in which the kidney recovers itself, probably owing to the fact that the inflammation has not involved the whole of the secreting structure; the patient struggles through the crisis, and you congratulate yourself that it is due to the care you have taken, or the remedies you have employed. I am sure, however, that in many instances the seeds of an interstitial nephritis have been sown which will bear fruit later on, and the renal functions will suddenly break down on some slight cause, such as a slight fray of the prostatic urethra with a rough catheter, and the end will be rapid.

What are the precautions to be adopted in every case of residuum?—Care is bestowed upon the catheter. It should be new, and disinfected by syringing very hot water through it, or if a soft Jacques is used it should be left in Carbolic lotion, 1 in 20, for some hours before being used, and thoroughly washed in very hot water immediately before it is introduced. Only half the residual urine is withdrawn at the first sitting, and its place is partially taken by introducing four ounces of warm Boracic water* by means of a disinfected syringe.

* I may remind you that the English red gum-elastic catheter, armed with its stylet, can be made to assume any large curve the surgeon desires by placing it in hot water, bending it, and removing it to stiffen in cold water. It should be passed so as to maintain the curve, and the manoeuvre of William Hey of Leeds, adopted to increase the curve if needful, thus:—Whilst the instrument is in the deep urethra, when the end of red gum-elastic catheter meets with the prostatic obstacle, withdraw the stylet an inch; this will throw forward the point and increase the curve, and so enable you to carry it over the obstruction into the bladder. ("Pract. Obs. in Surgery," Wm. Hey, 1814, pp. 399, 400, quoted by Sir H. Thompson.)

* Borax 3ij to the pint of boiling water; cover vessel with a piece of lint steeped in Carbolic solution 1 in 20, and use warm.

At the next sitting all the urine may be withdrawn, and the bladder washed out with Borax lotion and four ounces of the same solution left in.

When tolerance has been established, the patient should be instructed how to pass his catheter. It is wise to impress upon him the need for cleanliness and for keeping a watch upon the state of the catheter, lest it becomes cracked, and the eye worn or frayed.

AVOID DRAFTS UPON THE CAPITAL OF VESICAL MUSCLE POWER.

Now let us gather up the *rationale* of the treatment of the earlier stages. Our great aim must be to avoid septicity and to nurse the muscle of the bladder, for we cannot, I believe, with our limited knowledge prevent the increase in the size of the prostate. Is the muscle flagging, and feebly contracting against commencing obstruction (irritability)? Whip it up with muscle tonics. Is the muscle striving spasmodically against an impassable barrier (retention)? Remove the obstacle by means of the catheter as soon as possible, lest the muscle become over-stretched and paretic, but the catheter must be used no longer than needful. Directly the patient regains some voluntary micturition, the aid should be gradually withdrawn. Has the muscle almost struck work (incontinence)? Place it in the best possible position for gradually recovering its elasticity. Remove the residual urine little by little and aseptically. Remember it is an error of judgment amounting to incompetence, to permit a patient to suffer prolonged retention, or to enter upon the stage of incontinence, when you might have averted both by the timely and judicious use of the catheter, for both of these conditions entail dangerous drafts upon the capital of muscle power.

MUSCLE HEALTH A SINE QUA NON.

I wish you to appreciate the importance of muscle health, for many of you regard the muscle tunic of the bladder only as a convenient thickening element in the wall of the bladder, once the patient depends upon the catheter for micturition. A paretic muscle means a perpetually congested vesical mucous membrane—a congested surface which is liable to low forms of ulceration, which possesses diminished powers of repair, which offers a suitable and succulent nidus for septic invasion, which is readily stressed and pouched into sacculi, and which itself keeps up an unhealthy state of the urine, perpetuating the chronic cystitis, and in-

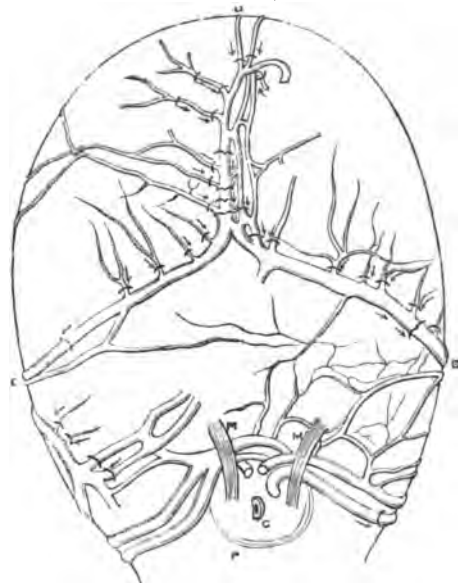
viting and fostering the formation of stone. Moreover, a paretic badly nourished muscle means the interpenetration of inflammatory material (fibroid material), and thus subsequently leads to contraction of the capacity of the bladder.

Without attaching too much importance to the fact I would point out to you that the unhealthy muscle cannot deplete the venous sinuses of the prostatic system, and the entire base of the bladder is therefore predisposed to a continuous state of congestion. Let me prove these assertions.

BLADDER AND PROSTATE RESPIRATION.

Glance for a minute at these pictures of the venous system of the bladder which I have selected from fifty of my dissections,* and you will notice

FIG. 2.†



(fig. 2) that each venule as well as each large venous trunk which drains the muscle and the mucous membrane is accurately valved. These valves do not permit any *backward* current of blood along the veins, hence congestion is warded off the internal coats of the bladder. On contraction of the viscus the vessels are emptied of their blood like a wet sponge is squeezed free of water by the closing hand. Its venous system is depleted and cannot be filled by reflux, for all along the base are also placed strong guardian valves. As the

* Author. The Venous System of the Bladder, "Journal of Anatomy and Physiology," 1885, p. 320.

† Venous system of anterior surface of a young bladder, showing the inverted Y-shaped vein. P, prostate.

spasm relaxes, healthy blood pours into the arterioles, bringing fresh food to the internal coats.

But what happens if the muscle becomes over-stretched and paretic? The valvular system is destroyed, the veins become varicose, the venous and arterial circulation is sluggish, the mucomuscular coats become impoverished, and a chronic congestion supervenes. The bladder has in fact ceased to respire.

More than this, the vesical venous blood is forced in health into and along the large basal veins, and into these large veins the sinuses of the prostate open obliquely. The stream produces a slight suction on the deep lying prostatic sinuses like a Sprengel pump, and assists in this way a quiet torpid current. It is at most a slight influence I will admit, and one upon which we need not place much stress, but it is a factor.

BLADDER CALISTHENICS.

In order then to prevent deterioration of the mucous membrane as far as possible, we must preserve the healthy action of the muscle. Still more important is it to aim at this in order to give our patient a chance of a radical cure by prostatectomy or prostatotomy, for without muscle power an operation is fruitless.

How may this be attempted? No bladder should be permitted to slacken its natural efforts. Nothing impoverishes the muscle so quickly as the seductive help which catheter life affords to the hitherto labouring muscle.

Let the catheter be an auxiliary, but not a superseder of the vesical power. If the patient is forced to depend upon his catheter, and cannot evacuate any urine without it, make the muscles work by checking the outflow. Narrow the stream through the catheter by compressing the calibre of the instrument with the fingers, or by using an ebonite plug or rubber valve.

If the bladder needs washing out "bladder dumbbells," to use a fanciful expression, should be used. A funnel and tube attached to the catheter is employed to run the washing medium into the bladder, and when the viscus has been cleansed it is filled to a comfortable extent, and the funnel is held vertical. Every expulsive effort which the patient makes raises the column of wash in the funnel, and thus you are able to obtain an hydrostatic dumbbell by means of which the muscle can be trained and exercised daily. This effort must

not be diaphragmal, but vesical.* Combined with this you may employ a weak Faradic current by Cardew's method.

TREATMENT OF THE INFLAMMATORY STAGE.

Although I have impressed upon you the necessity for avoiding the pauperisation of the vesical muscle by lavish and needless catheterisation, I have also insisted upon the imperative need for strict asepticism in all instrumental interference. Sooner or later this stage of inflammation is arrived at, though catheter cleanliness tends to ward off and postpone the evil day. Despite, however, your best efforts, the urine will in course of time become stale and will smell fishy or ammoniacal. These signs of decomposition herald the onset of a low form of inflammation of the mucous membrane of the bladder, which if the urine is not quickly corrected and rendered sterile with Boric Acid, or Salol or Naphthol, will rapidly pass into chronic cystitis. I believe that in certain patients no amount of care will prevent chronic cystitis, which in many cases is lighted up from within rather than from without. I am inclined moreover to consider that once chronic cystitis has fastened upon a paretic bladder, it is *incurable*. It may be relieved, it may be controlled, but in my own experience it is never thoroughly removed. Much can be done by means of drugs to alleviate the chronic cystitis of prostatics, but topical treatment by means of washing out the bladder is the only effective method of subduing and keeping this trouble under control and of preventing the formation of phosphatic calculi, which so frequently form in old bladders and accentuate the misery and suffering of an old age thus afflicted.

The four wash solutions you may rely upon are Boroglyceride, Iodoform, Salicylic Acid, and Nitrate of Silver.† Each plays its particular *role*. The Boroglyceride may be used as the best general wash to cleanse the bladder in mild cystitis. Use Iodoform when there is much irritability and pain. Salicylic Acid when the mucus is very tenacious

* In taking drum tracings of the movements of the walls of the bladder I found the two curves (one due to the respiration and the other to the circulation) were much more marked in the atonic than in the healthy bladder. The patient must therefore not merely strain the column of water up and down, but he must use the make-water effort, and elevate the water by a distinct bladder exertion.

† Borax, a drachm to the pint of boiled water; Iodoform, 5 grs. to the ounce of water, suspended in mucilage; Salicylic Acid, 1 per cent.; Nitrate of Silver, 2 to 4 grs., in 4 oz. of distilled water.

and abundant. Nitrate of Silver when blood appears mixed with muco-pus.

Make it a rule always to suspect a chronic cystitis due to enlarged prostate is forming a calculus, even when no symptoms of stone are present, and insist on a gentle and careful examination with the sound every few months in such cases.

WHAT ARE THE CHANCES OF A RADICAL CURE BY PROSTATECTOMY?

Permit me to remind you that this, like all other similar questions, involves sound common sense and judgment as well as experience. Young practitioners are apt to forget that a crowded city-bred man will generally bear much less interference than one who has lived an out-door country life; and that statistics of successful cases drawn from country districts are not the safest guides upon which to base their advice concerning prostatic operations. Each patient must be judged upon his own merits, his vis and pluck, his habit of body, the urgency of the symptoms, etc.

What are the physical conditions which permit you to confidently advise a patient (who is a favourable subject for an operation) that he will obtain a radical cure of his prostatic trouble? They are four:—

1. When the prostatic obstruction consists in a small pedunculated or sessile median lobe and the prostate per rectum is small.
2. When the muscle of the bladder is healthy and strong.
3. When the capacity of the bladder is over 10 oz.
4. When the urine is sterile, and contains no indication of renal or vesical inflammation.

The physical examination to establish these conditions is easy enough. When the prostate is *small* per rectum, and definite symptoms of prostatic obstruction exists, the impediment to the stream is always in the form of an outgrowth, sessile or pedunculated, which is situated at some part of the urethral orifice, usually medianly. It is easily demonstrated by means of the cystoscope.

The muscle power of the bladder is tested by passing a catheter when the bladder is full, and by observing the velocity and parabola of the stream made by the patient through it. Such a case would give a typical success. It is not an imaginary case, for this lobe was removed from such a patient the age of 50 with a perfect result. (Case given.)

If cystitis is present or pyelitis co-exist, the

result is the same as regards the recovery of micturition, but the wound will take much longer to heal, and the effects of the inflammation on the bladder, ureter and kidney still remains to be combated, though much relieved by the temporary drainage. Here is a lobe removed from such a case successfully; the patient was 50 years of age. If the prostate is *broad* and elastic per rectum, the muscle strong and the urine in fair condition, the obstruction will usually be found in the form of a collar round the posterior part of the urethral orifice, and a successful result will ensue either from its removal or from guttering it deeply posteriorly, though the hæmorrhage will probably be greater than in the two preceding cases.

If the prostate per rectum is large and has assumed the apple form, the difficulty of thoroughly removing the obstructing portion is much greater, and success is less pronounced; the operation is usually more severe. If superadded to an apple prostate, cystitis be present, some loss of muscle power has taken place and the capacity is diminished, the chance of cure is much lessened.

Whilst, a patient with rigid tortuous arteries, polyuria, apple prostate, cystitis, no stream or only a feeble catheter stream is the worst case possible for interference, and will be infinitely worse rather than better for any supra-pubic prostatectomy.

In all these operations I have presupposed that the path of the operation is supra-pubic for prostatectomy by the perineal route is usually unthorough and may be very unsafe.

To render Tincture of Rhubarb more stable.—The addition of glycerine to the Tincture of Rhubarb in the proportion of 1 in 10 prevents precipitation, and thus renders the tincture more stable.—(*Les Nouv. Rem.*)

To get rid of the smell of Iodoform, Creosote, or Guaiacol.—To free the hands from the smell of Iodoform, Creosote, or Guaiacol, wash them with water in which linseed meal has been boiled and drained off.

Objects smelling of Iodoform should be washed in tar water to which has been added some essence of winter green.

Rooms smelling of Creosote or Iodoform can be deodorized by burning coffee-berries in them.

Pills of Creosote over which freshly ground coffee has been sprinkled, lose their disagreeable odour.—(*Deutsche Med. Zeit.*)

CLINICAL NOTES.

(Specially reported for *The Clinical Journal*. Revised in each case by the Author.)

WITH DR. PERCY KIDD IN THE OUT-PATIENT DEPARTMENT OF THE BROMPTON HOSPITAL.

It is always well to guard against certain errors which can be made in auscultation, for there is no disease in which it is more important to recognise without misconception the early stages than phthisis. You should always keep, so to speak, one eye on the patient. In this case—on auscultation at the supra-spinous fossa—I hear some crepitant sounds after the patient coughs, but on requesting him to cough again without swallowing afterwards, the râles are no longer to be heard; that is to say, the râles were produced by the act of swallowing. This is a common error which it is very necessary to guard against in auscultation of the apices of the lungs. Another point to notice is the patient's method of breathing. Some persons, unintentionally, make a loud noise in their pharynx when they breathe through the mouth. In such cases the breath sounds heard at the apex of the lung acquire a harsh bronchial quality which is apt to give a false impression. In all healthy chests, more particularly in those that are thinly covered, the expiratory sound at the apex of the lung is more prolonged than elsewhere, and may even be distinctly bronchial on the right side. Again, increased resonance of the voice, or bronchophony, may be audible at the apex, especially on the right side, without any actual disease being present. This is due to the proximity of the large bronchi to the chest wall in the apical regions. The increased loudness of the vocal resonance, and the more bronchial quality of expiration on the right side are to be explained by the slightly larger size of the right bronchus, and the fact that the branch to the upper lobe is given off higher up, and nearer to the trachea than on the left side.

Cases of extremely Chronic Phthisis.

These two cases are of interest owing to the long duration of the disease. The woman has attended here, off and on since 1882; and there is a definite history of the disease commencing in 1876.

This other case commenced in 1874, with hæmoptysis, and at present there is some contraction of the apices of the lungs, with secondary emphysema below. There is flattening at each apex, with prolonged expiration; and at one apex behind very slight dulness and occasional muffled râles on coughing. In each case the physical signs are less pronounced than they were some years ago, and the patient's general condition has improved.

It is commonly taught in text-books that the duration of phthisis is only a year or two as a rule, but I cannot agree with this statement, as these two cases are but types of a very large class we meet with here. I have now over a dozen patients who have had phthisis for more than ten years, some of them for fifteen or twenty years. Most of these patients are women. This is to be attributed to the fact that women are less exposed to the influence of the weather and injurious occupations than men.

A Case of Phthisis in which Hæmoptysis was the First Symptom.

This patient is one which would have been termed some time ago "Phthisis ab Hæmoptoe." Though we recognise that hæmoptysis is often one of the earliest signs, we know that it is not a cause of phthisis.

I believe that, in far the greater number of cases, profuse hæmoptysis is due to rupture of an aneurism in a cavity, and it is very probably so in this case, though I can find no clinical evidence of a vomica. When I was pathologist here I examined nearly 700 cases of phthisis, and of this number several died of hæmorrhage. In seventy out of eighty cases of fatal hæmoptysis I was able to demonstrate the presence of a ruptured aneurism in a vomica. Frequently the aneurisms were so small that they could only be discovered by very careful search.

Occupation Bronchitis.

This man is a baker by trade; he comes here complaining of cough, with scanty expectoration; on examination I find the physical signs of bronchitis. His case is interesting, as he tells us that the cough was preceded for some time by "shortness of breath." From the history I should conclude that he is not a victim of spasmodic asthma, but his bronchitis is accompanied by marked short-

ness of breath, and is of that irritative kind produced by the dusty atmosphere in which he works. The important point about him is this, that his trouble is essentially an occupation disease, and there is but one cure, that is, a change of occupation. I have ordered him to do this, and to take—

R Potass. Iodid. ... gr. iij
 Ammon. Carbonat. ... gr. iij
 Potassii Bicarbonat. ... gr. xv
 Aq. Camph. ... ad 3j
 Ter die sum.

A Case of Uncomplicated Stenosis of the Aortic Orifice.

Though a very rare condition to meet with, I believe this to be a case of stenosis of the aortic orifice. The physical signs in this patient are these, a feeble impulse, enlargement of the left ventricle, a systolic murmur over the aorta, a clear but rather weak second sound at the base. In addition, the pulse is infrequent, small, and exhibits the characteristic slow rise and fall. Traube long ago pointed out that, in this affection, the impulse may be very weak, a fact which he attributed to diminished recoil of the heart, consequent on obstruction of the aortic orifice.

*A Case of Bilateral Paralysis (complete L, incomplete R) of Abductors of Vocal Cords, and complete Motor Paralysis of Soft Palate, occurring in a Case of Tabes Dorsalis.

By Dr. FELIX SEMON.

This man, æt. 34, is of interest, owing to the very unusual complications of the fundamental disease he presents. The one to which I desire to call your attention especially is the complete motor paralysis of the soft palate, which I have never seen so much developed in a case of tabes.

On examination of the larynx you will find that there is complete paralysis of the abductor of the left vocal cord, and incomplete paralysis of the abductor of the right vocal cord. Further, there is some commencing affection of the internal

* This case was shown by Dr. Felix Semon at the first meeting of the Laryngological Society of London, on Wednesday, April 12th. It is of especial interest to our readers as bearing on a case of Locomotor Ataxy described by Dr. Bristowe in his Lecture published in the "Clinical Journal," March 29th, 1893, p. 351.

thyro-arytænoid muscles as evidenced by a slight excavation of the vocal cords. It is of interest to note here that a complete synergy of the intralaryngeal muscles is evidently not necessary for the production of musical sounds, as this patient can produce them in spite of his abductors being greatly affected. Besides the complete paralysis of the soft palate, you see fibrillar twitchings of the tongue.

Some of the face muscles, the masseters, and the temporals, are much wasted. This also is a very unusual symptom in tabes. His mouth hangs widely open owing to the falling of the lower jaw. He has difficulty in articulation and cannot whistle.

As to the more common symptoms of tabes dorsalis; he has the ataxic gait, absence of knee jerks, the Argyll-Robertson phenomenon, slight paralysis of the left sixth, shooting pains in limbs, gastric crises, and urinary incontinence.

I wish to draw special attention to the rapidity of the pulse-rate, which also points to extensive affection of the spinal accessory. It is habitually between 120-124 per minute.

He considers that the trouble began about five years ago, with weakness of legs, vomiting after meals, and attacks of diarrhoea. His voice and also choking attacks with crowing inspiration began to trouble him about the same time. Occasional regurgitation of liquids through nose was first noticed only about three months ago.

FORMULÆ.

For the Leucorrhœa of Children. (*Med. Chir. Centralb.*):

R Iodoformi ... 3j
 Ol. Theobromæ ... 3ss
 M. Ft. suppositoria, No. xvi. Sig. Introduce one, night and morning, high into the vagina.

For Chronic Eczema of the Face:

R Acid. Salicyl. ... 3j
 Ichthyol.
 Glycerini ... aa 3ij
 Aq. Ment. Pip.
 Aquæ ... aa 3v
 Alcohol. ... 3iss
 M. Ft. pigment. Sig. To be applied night and morning by means of a brush.

For Impetigo Contagiosa. (*L'Union Med.*):

- R. Cocainæ Hydrochlorat. gr.v
 Salol gr.lxxij
 Ætheris ℥lxxij
 Collodion ʒj
 M. Ft. pigment. Sig. To be applied
 topically.

Neuralgic Dysmenorrhœa. (*Parvin, Med. World*):

- R. Extract. Opii
 Extract. Belladonnæ ... āā gr.iss
 Quin. Sulphat.... gr.xxiv
 M. Ft. pil xxiv. Sig. One every three
 hours.

For Chronic Bronchitis:

- R. Benzol pur ʒiiss
 Ol. Menth. Pip. ... ʒss
 Ol. Olivæ ad ʒij
 M. Sig. Ten to thirty drops to be taken on
 sugar every three or four hours.

NOTICES ON FOODS, DRUGS, &c.**THYROID TABLOIDS.****(Burroughs, Wellcome & Co.)**

These tabloids are prepared from the fresh thyroid glands of sheep. Each tabloid is said to contain five grains of fresh thyroid. The thyroid glands are taken within three hours after the sheep have been killed; and after any adjacent tissues have been removed, and the glands thinly sliced so as to be certain that the gland tissue is free from diseased conditions, they are dried *in vacuo*. The dried tissue is then pulverised, and after the admixture of a small quantity of salt, compressed into tabloids.

They are soluble in water.

We believe that the Thyroid Tabloids will be a more useful and convenient method of administering the thyroid gland than the other methods now in vogue.

DERMATOL DUSTING POWDER.**(Burroughs, Wellcome & Co.)**

This is a fine powder, of a palish yellow colour, consisting of Dermatol mixed with starch powder. We have used it in a case of Intertrigo and found it very useful.

Dermatol is a Subgallate of Bismuth, which is a powerful bactericide. In this powder we therefore have a useful antiseptic dusting powder, which can be used without any fear of toxic effects.

BOVININE.**(The Bovinine Co.)**

Bovinine is a fluid preparation of the juices of lean uncooked beef, obtained by a mechanical process, and in which is preserved all the nutritious albuminoid elements, in addition to the meat salts and extractive matter. It is said to contain about 20 per cent. of coagulable albumen.

It is recommended that it be taken in doses of from half to one teaspoonful at first, the amount to be gradually increased to one tablespoonful four times a day, well diluted in milk, water, or other cold fluids.

Bovinine is a worthy representative of a class of meat preparations, and it can be confidently ordered in those diseased conditions where a concentrated and highly nutritious food easy of assimilation is indicated.

OIL OF EUCALYPTUS GLOBULUS.**(Platypus Brand.)**

This brand of Eucalyptus Oil, possessing to a high degree the characteristic pleasant odour, is a well-made and reliable preparation. It is a powerful antiseptic, and as such is of use in a great number of conditions. It will be in the recollection of our readers that in the severe influenza epidemics Eucalyptus Oil was reported to have been most useful. We have tried it and found it of use as an inhalation in coryza, and also in the form of a steam inhalation as a stimulating expectorant. At present considerable interest has been excited as to its use in the disinfection of scarlet fever.

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THE CLINICAL JOURNAL.

WEDNESDAY, APRIL 26, 1893.

A CLINICAL LECTURE ON THREAD-WORMS IN CHILDREN.

BY
A. ERNEST SANSOM, M.D., F.R.O.P.,
Physician to the London Hospital, Consulting Physician to
the North Eastern Hospital for Children.

Of the nature of the influence of these parasites upon children, diverse opinions are held. Many consider them, for the most part, as harmless concomitants of debilitated conditions. Authors of the highest repute deal with them as if they were of but little importance; it is said that the older writers were too greatly scared by them, and that their influence is in the direction of discomfort rather than danger. Moreover, it is stated that the signs which are said to indicate their presence are obscure and frequently deceptive. On all these points my own experience points to a different conclusion: I consider that they have a dangerous significance; that they are among the most potent of all debilitating influences in regard to children of the poor; that their influence for evil is far more direct than is commonly supposed, and that the signs which betray their presence are generally well marked. There can be no doubt of the frequency of the presence of the entozoa in the intestinal tract of children. The most common forms of these are the thread-worm (*oxyuris vermicularis*) and the long round-worm (*ascaris lumbricoides*). In 500 cases, taken haphazard, under my care at the North Eastern Hospital for children, I found 145 in which these parasites were discovered, and in which I believe that the symptoms suffered by the children were directly due to their presence. The cases associated with the presence of thread-worms were by far the most numerous, and in those that manifested the large round-worm the small *oxyuris* was generally present in addition: the proportion was therefore 29 per cent. of all cases. If I were to take, however, the instances where the parasites were associated with other debilitated conditions, I should find that at least half the number of children who come under our care at the hospital are infested with these pests. It must not be inferred that a like relative prevalence exists all over the world.

Generally, the two species I have mentioned are the most common. In some localities the round-worm is more prevalent than the thread-worm; for example, the evidence of post-mortem examination of children under fifteen years of age, in Germany, shows the following proportions:—In Erlangen, *ascaris lumbricoides* 13.3 per cent.; *oxyuris vermicularis* 10.8 per cent., together 26.6 per cent. In Dresden, *ascaris* 41.6; *oxyuris* 0 per cent. In Kiel, *ascaris* 21.8 per cent.; *oxyuris* 33.8 per cent. It is obvious that the prevalence of these two kinds of worms varies within narrow geographical limits. The evidence of morbid anatomy confirms clinical experience, that one or other of these forms exists in about 50 per cent. of the children coming under observation.

We will now confine ourselves to the consideration of the more common parasite, the *thread-worm*. First, we will briefly consider the natural characteristics. About the anus of the child, amongst its clothes or in the dejecta, *oxyurides* may be seen to resemble short pieces of whitish thread. They are generally recognised by their worm-like movements, but may be dead and of course motionless. Sometimes they may be seen expelled from the bowel as a mass of intertwined worms containing thousands of individual forms. The female *oxyuris* is the longer, measuring from a third to half an inch; the male measures from $\frac{1}{4}$ to $\frac{1}{2}$ inch. The head is obtuse, presenting a swelling on either side. The tail of the male *oxyuris* is spirally curled, whilst that of the female is straight. The females are more numerous than the males in the proportion of about nine to one. The ova in the female are very abundant; they almost fill her interior cavity; they may be observed to contain embryos in many stages of development. These eggs are oval in shape, and measure $\frac{1}{100}$ in. in their long, and $\frac{1}{140}$ in. in their short diameter—a length therefore rather less than four times, and a breadth rather less than twice, that of a human red blood-corpuscle.

In water the *oxyurides* swell and burst from endosmosis. Their ova are in like manner destroyed in water. It is not by fluids therefore that transmission of the eggs takes place, but by physical modes of transit from one individual to another, or from one individual over and over again to himself.

The ova must enter by the alimentary tract: "The *oxyuris vermicularis* undergoes all its phases of development, and passes its whole life in the intestinal tube of one and the same individual. The embryo having become free proceeds to the upper part of the small intestine; there it grows rapidly, begins to show difference of sex (manifest chiefly in the male by the formation of the "spicule"), and casts its outer skin. Then the oxyurides descend to the inferior part of the small intestine, where they copulate; subsequently, the females pass on to the cæcum accompanied by a certain number of males; there they increase and develop to their fullest extent during a period more or less prolonged. As soon as their ova have acquired maturity they reach the colon and, principally, the lower part of the rectum, where the ova are extruded in the mucus, or, perhaps, even in the substance of the mucous membrane itself. . . . The development of the oxyuris is very rapid: Leukart and three of his pupils (1865) having swallowed ova of the worm found, fifteen days afterwards, several young oxyurides from six to seven millimètres in length in their dejecta." (Davaïne, *Traité des Entozoaires*, 2nd edition, p. xcv.)

Now as to the examination of the infant or child for the purposes of diagnosis. It is very improbable for an infant at the breast to be the subject of thread-worms. These commence to be manifested when the child begins a dietary derived from various sources, and especially when locomotion commences and he revels in various forms of dirt. The youngest child, the subject of oxyurides recorded by Heller, was aged 5 weeks. My own cases give an average of 5.3 years, the youngest being 6 months. In a considerable proportion of cases the diagnosis is already made by those who have care of the child; the thread-worms have been observed in the stools, or have been found to crawl away from the anus amongst the bed-clothes or into the clothing. The only question in such cases is whether there is associated disease. In other cases the existence of thread-worms may be unsuspected or denied. In such, however, do not omit to examine the perinæum, for in instances wherein it has been stoutly denied that the child has ever manifested the parasites, I have observed them gyrating at the borders of the anus.

In a large proportion of cases the cause of the symptoms from which the child suffers is not suspected, and it is not till treatment is put in force that this cause is brought to light. The symptoms

may be divided into a large class of direct and a smaller class of reflex phenomena. The symptoms I have seen mentioned in text-books are by no means all that I have observed. It is said that itching about the anus is a very constant sign of the presence of oxyurides, but it is certain that this sign may be absent, and yet the child be suffering from the effects of thread-worms. A section of my cases, nearly one in eight—considerable it is true, but less considerable than might be imagined—manifested symptoms which could be located to the neighbourhood of the rectum. Most of these had chronic diarrhœa, many prolapse of the rectum, and some vulvitis and leucorrhœa. A far larger proportion manifested symptoms and signs which might be said to be initiated at the other end of the alimentary canal; irritation about the mouth and nares, with impetigo and various forms of skin affections, epistaxis, ozæna, otorrhœa, pharyngitis and tonsillitis, the latter frequently recurring and leading up to tonsillar hypertrophy, stomatitis and enlargement of glands. About one in five was the subject of cough, the probable causation of which I shall presently discuss. Among the general signs, besides the usual well-known signs of versatility of appetite and dyspepsia, the chief was marked *anæmia*. Of symptoms which may be called *reflex*, we had epilepsy (five cases), hemicrania and chorea.

Next, as regards *objective signs*. Usually the children manifest *anæmia*, fretfulness, restlessness, and are easily tired. Of much diagnostic importance is the existence of somnambulism and night terrors. Though the general "facies" is not characteristic, particular phenomena about the nose and mouth are of the highest diagnostic importance. Thus the subjects of oxyurides generally show an ulcerated condition of the lining of the nostrils; often there is an impetiginous crust at their margins, and scattered impetigo about the face and head. The tongue is generally in the highest degree characteristic. It may be dotted with small stomatitic ulcerations, but the typical tongue has a streak down its centre where it is partially denuded of epithelium, whilst the lateral portions show a white or brownish fur. The fungiform papillæ are prominent, but, most characteristic sign of all, the *circumvallate papillæ* are so enlarged that they present an elevated crescent at the root of the tongue which projects as a firm and prominent ridge. As I have said also, the contiguous pharynx and tonsils are often inflamed and thickened or enlarged.

It may now be asked: how do the ova of oxyurides gain entrance into the alimentary tract? on this point there is an important piece of evidence. Heller states that Professor Zenker in examining the deposits under the finger nails and about the finger tips, by means of the microscope, in the subjects of oxyurides, has frequently discovered the ova of the parasite, and Heller adds that he can, himself, confirm the observation. My former colleague, Dr. Cayley, and myself are also able to confirm this. It is necessary to say, however, that caution should be used in the examination. I find that the *débris* collected should be mingled with a drop of Iodine water, for it is difficult to distinguish from the ova starch granules, which sometimes assume an ovate form; the Iodine, of course, stains the starch grains blue, and serves as a means of differentiation.

It is said to be possible that the ova may be transmitted by the air, but it is obviously more probable that transmission takes place by the direct contact of individuals who are the hosts, or by the ingestion of uncleanly articles of diet. Once the ovum transmitted to the intestinal tract of a given individual, he not only becomes a centre of contamination to others, but a constant source of self-infection. Insensibly, perhaps, during sleep, the fingers scratch the neighbourhood of the anus, or they do so in response to the itching which frequently occurs. Then subsequently the soiled fingers are carried to the mouth or nose, and it must be remembered that children troubled with worms often possess the habit of biting the nails. So the administration of ova and the supply of parasites are kept up.

We have next to answer the question: how do the oxyurides produce the symptoms which we have considered to be characteristic of their presence? The itching about the anus and the ulceration of its margins are no doubt the effects of the local irritation. So also the vulvitis and vaginitis; for the parasites have been found in these situations. In like manner can be explained the diarrhoea, prolapse of rectum, tenesmus, etc. Then concerning the remoter affections—I have long been of opinion that the skin affections of children, who are the subjects of worms, have their origin in a direct irritation. How often we find that there are whitlows about the finger tips, and unhealthy ulcerations near the nails.

Professor Michelson examined the crusts and scales in a case of intertrigo of the groin in a boy,

and found ova of oxyurides with embryos in stages of partial development. Von Huber had previously quoted evidence to show that a peculiar irritant material was contained in the tissues of the parasite which might explain its local action.* I am myself strongly of this opinion, and thus I explain the eczemas and impetigos of which the hosts of the parasites are the subjects. So also is explained the irritation of the nares. A step farther takes the local irritation to the mouth, the pharynx and the tonsils. No other cause, in my opinion, exists for the superficial ulceration of the tonsils which is observed, and this by recurrence leads on to the hypertrophy of the tonsils. The prominence of the circumvallate papillæ which I have described as a valuable diagnostic sign, I take to be the direct effect of a local irritation. The outcome of this irritation of the fauces is cough, and the cough is often of a peculiar character—violent, paroxysmal, and often described by the parents as like the barking of a dog. The subjects of these parasites often present pulmonary symptoms which make a careful physical examination of the chest a duty, but it is very rare to find any evidence of causation in the lungs themselves. The cough is of course a reflex symptom, but it is the effect of a direct irritation produced upon the back of the tongue and the fauces by the ova of the parasites. Oxyurides can, however, produce other phenomena which are distinctly reflex. They may affect the heat centre, giving rise to what is known as worm fever. I have known a child to manifest an axillary temperature of 105° F., then to expel a mass of oxyurides, and the temperature to fall to normal. There is a probability that epilepsy and chorea have been determined by oxyurides.

You will infer from what I have said that I differ from most observers in my view of the mode in which these little pests affect the economy. They are not, in my opinion, the almost innocuous denizens of the lower bowel that some regard them; nor do they produce their effects in an indirect, but in a direct way. The protoplasm of their ova is peculiarly irritating; these excite (1) the bowels, so that diarrhoea is induced, (2) the verge of the anus, giving rise to the itching, (3) the vulva, when they reach their mucous surface. Then when the tips of the fingers receive the ova these are irritated, and the abnormal condition is manifested in the restless picking that is so common, in

* Deutsches Arch. für Klin. Med. vii. 1870, s. 450.

scratching parts of the body, when the irritant often brings about a pustular affection. When the fingers conveying the ova enter the nostrils, as under the morbid conditions they so often do, the mucous membrane here is ulcerated, and its itching provokes to a further scratching and so an addition of the irritant. When the fingers are carried to the mouth the direct irritation is carried to the tongue, and especially to its posterior portion and the fauces, which serve as a trap to retain the irritant material.

But there is another factor. There is no doubt that a weakly child is much more likely to be the subject of thread-worms than a healthy one. A severe illness makes a strong child into a weakly one, and forthwith he becomes the host of oxyurides. Why is this? In the healthy child the intestinal peristalsis is sufficient to rapidly expel the intruders. In the weakly, this peristalsis is enfeebled, and probably also there is on the mucous tract an unhealthy secretion in which the parasites thrive.

Now, as regards treatment in the case of the hosts of oxyurides. The indications are (1) to expel the intruders and all their ova; (2) to prevent the entry of ova into the alimentary tract.

The total expulsion of the parasites is no easy matter. It is important to keep up for several weeks a frequent aperient action; Castor Oil, Sulphate of Magnesia, Rhubarb, or other simple aperients may be employed for this purpose. If the parasites *present* at the rectum, or if there be local symptoms hereabout, an enema is decidedly indicated, but the old notion that such clyster-treatment is the plan to be adopted in all cases, is quite erroneous. The habitat of the oxyuris is not the rectum only, but the whole large intestine, in fact, its headquarters may be said to be the cæcum. It is obvious that ordinary enemata cannot reach so far. In rebellious cases special apparatus, whereby the whole large substance can be irrigated, are recommended. Such is Hegar's funnel system apparatus.* Nothing is better as a destructive agent than warm or cold (pure) water—in water the parasites swell up and burst. A solution of soap is sometimes recommended. After a general clearance by purgatives and enemata, it is well to instruct the parents to repeat the latter about once a week, even when the child seems in good health.

With this purgative line of treatment it is, in my

opinion, very important that a tonic plan should be joined. Indeed, I think the facts show that a double cause exists for the accumulation of these intestinal worms, and for the effects which they produce. So long as the ova of the parasites are imported into, or even by chance develop in, a healthy intestine, they manifest no ill-effects, because the vigour of the intestinal movement never allows them to accumulate. Let there be, however, from any cause a paresis of the bowel, or a development of mucus in which they can become concealed, and then they become the dangerous pests that I have described. The moral is:—coincidentally (or commencing very shortly after the first expulsive efforts) administer Iron tonics with, in some cases, Strychnine or Nux Vomica, with a view not only of restoring the blood-making function, but of giving strength to the weakened intestines.

Finally, as regards preventive treatment, without which all other means are of no avail. At the outset insist on scrupulous attention to the diet. All the milk given, and all the drinking-water should be previously boiled, for ova of *ascaris lumbricoides* can be imported by these vehicles. So, also, all the meat given should be well-cooked. Especially all the food should be *clean*. It is through the soiled fingers of human kind that the ova are chiefly distributed; any article of food therefore, which passes through many hands, or is liable to be touched by dirty hands, suspect. I am very much inclined to think that brown sugar is a vehicle for importation—therefore I order white sugar to my patients. Above all, try to indoctrinate habits of strict cleanliness as regards the little patients themselves. With the view of killing the ova I order tar or carbolic acid soap to be used for the frequent washing of the body, and I make the parents keep the children's nails short, and brush them many times a day with tar-soap water. It is undoubted that the supply of the parasite is kept up by the conveyance, by the fingers, of ova from rectum to mouth. Alas, it is not always that these lessons can be adequately enforced, though I must say that among the poor I have found rebellion against carefully expressed rules exceptional. The mothers of hospital patients are willing, for the most part, to learn and glad to be taught. You may think my precautions unnecessarily minute; but I hold that the treatment of the affections, to which I have directed your attention, is on a par with the antiseptic method in surgery.

* Cf. Heller. Ziemssen's Handbuch, *loc. cit.* p. 647.

As the bacteria in the latter case, so are the ova in the former. And the essence of the treatment in both is a scientific cleanliness. Alas, if only in Utopia we can find the conditions of an adequate prophylaxis—which consists in purity of food and purity of body!

It is important to consider a secondary condition to which the frequent irritation occasioned by thread-worms sometimes gives rise—prolapse of the rectum. A child may be brought with the red or bluish bowel protruding as a great mass from the anal orifice. The first thing to be done is to effect reduction. Every effort must be made to calm and soothe the child and make it lie down on its side, for its struggles, and especially any movements whereby the heels are forced upon any unyielding surface, induce straining and keep up or aggravate the condition of prolapse. Then, the child still lying down, a sponge dipped in cold water should be several times applied to the prolapsed mass; in cases of difficulty ice-cold water may be applied or pieces of ice may be enclosed in the sponge. After such cleansing and cooling a small, soft napkin should be well oiled, and with it the mass grasped and gently squeezed by your thumbs and fingers. It generally returns to its proper place without difficulty, but as the cause of irritation—and the cause is the presence of thread-worms in nine cases out of ten—is not removed the accident may recur again and again. You should therefore inculcate the following plan:—The next day after the bowel has been restored, if possible before any attempt to defæcate takes place, an enema of cold water should be administered. If with the act of defæcation the bowel again protrudes the sponging should be repeated and an astringent lotion applied, or the *Glycerinum Acidi Tannici* freely smeared over the surface before reduction. The cold water enema should be repeated daily for four or five days, and then at rarer intervals. At the same time a slight laxative, such as Syrup of Senna, in small doses, for if peristalsis is inactive, and hard masses of fæces are forced into the rectum, the prolapse will recur. If possible the child should be placed during defæcation in such position that its feet do not touch the ground, and the mass should be supported by the fingers: this important preventive measure has been insisted on by Dr. Eustace Smith. The child should wear a bandage of thin flannel round the belly, and to it should be sewn a perineal band with a soft pad applied to the anus so long as the tendency to prolapse remains.

A LECTURE

ON

LACHRYMAL AFFECTIONS.

Delivered at the Royal London Ophthalmic Hospital, Moorfields, in connection with the London Post-Graduate Course,

By W. LANG, F.R.C.S.,

Surgeon to the Hospital, Ophthalmic Surgeon to the Middlesex Hospital.

DISEASES of the lachrymal apparatus naturally divide themselves into two groups, affections of the lachrymal gland and affections of the drainage apparatus. The former are so rare that they need not detain us, except to mention that they are almost limited to inflammations and new growths. The latter are very numerous, and form an important class of case, for which much may be done by appropriate treatment. But first it will be well to refer to the parts concerned in carrying away the tears. These are the puncta lachrymalia, the canaliculi, the lachrymal sac, and the nasal duct. Each punctum is situated at the inner end of the tarsus, and may be considered as the nozzle of the suction pipe or canaliculus which connects the pump or lachrymal sac with the delivery pipe or nasal duct, and terminates in the lower meatus. The puncta are normally in contact with the ocular conjunctiva, and are therefore invisible, except the lids be displaced, either artificially or by disease. The canaliculi, which enter separately or by a common trunk into the outer or membranous wall of the sac, are surrounded by a layer of muscle fibre, which assists in the suction action of the sac. At each wink of the lids, the outer wall of the sac is drawn outwards by means of the orbicularis muscle and tarsal ligament which are connected with it. This enlargement of the sac acts like a pump, and normally the tears are drawn into it and then pass, by gravity, down the nasal duct into the nose, being assisted in their descent by the re-contraction of the outer wall of the sac.

This action is well illustrated by the frequent blinking which takes place when, from some emotion, the tears begin to flow more quickly than normal, but without actual crying. The sniffing or blowing of the nose which accompanies this is not to assist the outflow, but to get rid of the excess of tears in the meatus.

It will now be easy to understand the theory of the treatment of the numerous diseases which affect the various parts of this complicated apparatus.

The two principal symptoms that arise from these diseases are epiphora, or a flowing of the tears over the cheek, and mucocoele, or a collection of mucus or muco-pus in the sac which may lead to lachrymal abscess and lachrymal fistula. Uncomplicated epiphora occurs when the disease lies on the ocular side of the sac, whereas epiphora with mucocoele occurs when the disease is beyond or on the nasal side of the sac. We will consider these affections in their anatomical order.

The puncta may be congenitally absent, constricted or closed by disease, blocked by foreign bodies, or displaced. All these troubles give rise to simple epiphora, and are readily diagnosed by inspection of the parts. The closed and constricted puncta should be opened under Cocaine, a little of the powdered salt being dusted over the part; a sharp cataract needle is bored through the small depression which usually exists where the punctum should be, a Weber's knife passed along the canaliculus, and a small incision about 2 mm. long made in its inner wall. A little Vaseline will prevent its re-closure. Occasionally a foreign body, generally an eye-lash, passes down the canaliculus and blocks the punctum, and whilst it protrudes through the punctum it can be readily seen and removed. Displacements of the punctum generally occur in the lower lid, but scars may displace either or both lids: diseases and inflammations of the lids and conjunctiva, such as sycosis, eczema, chronic catarrh, etc., may produce swelling of the parts and closure of the puncta, which lead to epiphora, and the constant overflow of the tears in turn sets up a slight dryness and contraction of the skin of the lid, which again produces ectropion. This same condition may be brought about by laxity of the tissues due to advancing years, when the lid drops away by simple gravity. The same thing may be seen after any paralysis, in which the facial nerve is affected.

To cure the epiphora in each of these conditions, it will be necessary to attack the cause directly, and not begin by slitting up the inoffending punctum and canaliculus. If a transplantation of skin is indicated, it must be carried out, whilst the catarrh, sycosis, eczema, etc., must be attended to before the epiphora can be expected to cease; but when an eversion has once taken place it will often be found impossible to effect a complete and speedy cure by drugs alone: in such cases, if the punctum is slightly displaced a scar may be made, by means of the galvano-cautery, in the palpebral conjunctiva

just at its inner side and below; the extent and depth of the burning being regulated by the effect desired: this can be easily carried out under solid Cocaine, and the resulting scar draws the punctum back into its normal position.

Where the whole of the lid is more or less displaced and thickened (ectropion and lippitudo), one, two or three Snellen's sutures will generally suffice to restore it to its normal position. A Snellen's suture consists of a piece of fine silk with a curved-eye needle at each end; each needle is passed through the most prominent part of the everted conjunctiva, half an inch apart, and is brought out through the skin a little below the margin of the orbit. The ends are now tied sufficiently tightly, over a piece of rubber tubing, to produce inversion of the lid, and cut short. The loop of the suture draws the conjunctiva towards the skin, and during the four or five days that it is left in the scarring that takes place along the track of the thread is sufficient to keep the lid permanently in its normal position.

Obstructions in the course of the canaliculi are uncommon, but at times a so-called tear-calculus, a mass of lepto-thrix, a vegetable fungus, grows in one of the canals, dilating and obstructing it. On slitting open the canaliculus and turning out the green-looking mass, a cure is effected. Again, an obstruction may occur at the point of entrance of the canaliculi into the sac; this can only be detected by one's failure to get either fluid or a probe into the sac. To overcome this difficulty it will be necessary to force a probe through the obstruction, and should it return the canaliculus must be slit and a small style put in for a few days. As I before remarked, these difficulties give rise to epiphora only, since the mucus secreted by the sac can escape in a normal manner into the nose; but when the obstruction occurs in any part of the nasal duct or even in the nose, this mucus is retained and by slow degrees distends the sac. When once the outer wall of the sac has been unduly stretched, the pumping action is destroyed, and although the obstruction which has given rise to the distension be cured, still the epiphora does not cease. It is, therefore, of the greatest moment that these cases should be seen in their earliest state, when treatment can produce a complete cure; at a later period when the sac is dilated, partial alleviation is all that can be expected. As a considerable number of these cases can be directly associated with a conjunctival

catarrh or with some affection of the nasal mucous membrane, it is reasonable to imagine that the epiphora is due to a swelling of the mucous lining of the sac and nasal duct; such an obstruction being sufficient to produce retention of the tears and secreted mucus. Some months after the beginning of the epiphora, the sac becomes distended, and the retained mucus is streaked with pus, or it may be entirely purulent. It is in this state that a mucocele is dangerous, both to the globe and to the sac. Should the corneal epithelium be abraded, a suppurating or hypopyon ulcer will be started which may readily lead to the destruction of the sight; or an abscess may form, which may end, after much suffering, in the establishment of a lachrymal fistula. It is therefore obvious that a mucocele should not be left in this dangerous condition; and though it may not be possible to cure the obstruction, still the sac and its purulent contents may be rendered aseptic and innocuous, by treatment which I will presently illustrate on the cases now attending my clinic, but before doing so I will explain the various plans I adopt.

Inspection having demonstrated that there is no cause outside the sac for the epiphora, a little of a 2 per cent. solution of Cocaine is dropped into the lower conjunctival sac. This lachrymal syringe, known as Myer's syringe, filled with a similar solution, has its fine nozzle passed through the punctum along the lower canaliculus into the sac. If the punctum is too small it can be dilated by this conical dilator. As soon as the nozzle is in the sac the syringe is emptied by steady pressure. If the obstruction is slight the Cocaine will at once pass into the nose and escape by the anterior nares (the patient's face must be directed downwards; if it is looking upwards it will pass into the throat and be swallowed), but if the obstruction is considerable the fluid will escape by the upper punctum. (The diagnosis and prognosis is thus at once established). In either case, at the first sitting, I follow this up by a syringe full of Sulphate of Zinc, two grains to the ounce. In the first class of case the syringing through of the Zinc Sulphate three or four times, at intervals of one or two days, will lead to a speedy cure, which is generally permanent, though occasionally it may be necessary to use the syringe once every twelve or eighteen months. In the second class of case it may be found that at the second sitting the Cocaine passes into the nose. This is not an un-

common occurrence, and, therefore, I never attempt to pass a probe at the first interview; and if the history point to a short duration of the trouble I do not attempt to pass a probe until the third consultation, when it may not be found necessary to do so—the obstruction having subsided under the astringent.

It being decided to employ a probe to cure the stricture, which may be due to syphilitic or tubercular disease, the sac is first syringed out with the Cocaine solution, and, after an interval of a few minutes, a No. 2 or 3 Bowman is passed through the unslit canaliculus into the sac, and on into the nose through the nasal duct. This proceeding is fairly easy if care be taken to get the point of the probe well into the sac before attempting to turn the probe up to the brow, and, therefore, before attempting to pass it into the duct. If the point is in the sac gentle movements in and out of the probe will not pucker the skin of the lid, whereas the very gentlest movement will do so if it is not in the sac. The probe may be left in for five or ten minutes, and on being withdrawn, the Zinc lotion is syringed through, and should escape freely by the nose. This proceeding has to be repeated every second or third day until the Cocaine passes through without any probing, and when once this point has been gained I begin to instruct my intelligent patients how to syringe out their own ducts, before a mirror. Provided with their own syringe, they may now be discharged with the instruction that the sac must be washed through once a day, with a Zinc or Zinc and Boric Acid lotion, if a relapse is to be avoided.

When the sac is very much distended, but the nasal duct is freely open for the passage of fluid, it may be advisable to dissect out a portion of the outer wall of the sac in order to effect a complete cure: this can be done by making an incision through the skin and dissecting it away from the sac, which latter should be distended for the occasion; scraping away the mucous membrane by a sharp spoon, the "curetting the sac" of French authors is not, in my experience, of much service.

Where, in spite of repeated probings and syringings whereby the mucous contents have been rendered clear and aseptic, the stricture continues to return, it will be necessary to resort to the insertion of a Lead style. This can be done after slitting the upper canaliculus along its inner wall, and the patient can be instructed to pass the style in at

night and remove it in the morning, as recommended by Dr. Benson of Dublin. But I need hardly tell you that this should be your last resort, and not your first proceeding, as is advised in so many books.

Should the case have been neglected until an abscess forms, the treatment will vary with the stage the abscess has reached; if it is only beginning, an attempt should be made to wash out the sac with Mercury lotion, 1 in 1000, cold compresses applied to the part, and the recumbent position and aperients ordered; if, from the swelling of the part, this is impossible, then an anæsthetic should be given, a free incision made into the sac, which is then well washed out, a portion of its distended outer wall removed, and a probe passed to free any stricture that may exist in the nasal duct. A drain is inserted through the skin wound into the sac and a hot Lead poultice applied, which will soon relieve the pain and reduce the swelling. As soon as the swelling has subsided sufficiently the drain is removed, and syringing and, if necessary, probing through the unslit canaliculus commenced; the opening into the sac will at once close, and often the case terminates in a complete cure, but should the stricture prove obdurate then it must be treated by a style. Where the abscess has been allowed to point and burst, and the absence of all treatment has led to the formation of a lachrymal fistula it will be necessary to begin by treating the stricture in the nasal duct, and as soon as this has been accomplished the walls of the fistula may be dissected out and the lips of the wound closed by sutures.

If no cause can be found for the epiphora after a thorough examination of all the parts of the lachrymal apparatus, as well as the interior of the nose, then it may be advisable to consider if the secretion of tears is not in excess of the normal, and if everything else has failed it is justifiable to try what the removal of the extra-orbital portion of the lachrymal will do for the relief of the patient. This should be carried out through the palpebral fissure, and may be even done under Cocaine without undue discomfort when the fissure is large and the gland readily exposed, for it can be always seen on raising the upper lid and directing the patient to look well down and in. An incision with scissors through the conjunctiva over its convex margin allows of the gland being seized by forceps, dragged outwards and removed by a few snips with the scissors. A couple of fine sutures will close the wound.

At times a baby a few days or weeks old is brought with a mucocele or even a lachrymal abscess; in neither case is it wise to probe or syringe through the delicate passage. The abscess may be opened externally, and as soon as the swelling has subsided the nurse should be directed to treat it as if it were a simple mucocele in the following manner: After cleaning away all the discharge which may be squeezed out of the sac by pressing over it with the little finger, a few drops of a lotion of Boric Acid (gr. 10) and Sulphate of Zinc (gr. $\frac{1}{2}$) to the ounce of water, warmed, if necessary, is poured into the inner canthus, and the pressure over the sac repeated several times by this manoeuvre, some of the lotion is made to pass into the sac, and if the nurse keeps up this pressure at short intervals throughout the day a cure is soon effected. The lotion can be applied thrice daily. This same treatment is to be carried out in all cases of lachrymal obstruction two or three times a day in addition to the syringing, and a constant emptying of the sac by pressure greatly adds to the speed of the cure.

CORRESPONDENCE.

To the Editor of the CLINICAL JOURNAL.

SIR,—In your report of Mr. W. H. Bennett's lecture on Tic Douloureux in last week's issue, I notice that he states that the great drawback to my operation of attacking the Gasserian ganglion itself is "the loss of sight which follows on the side operated on." It is only just to mention that out of the seven patients whom I have treated in this manner, in only one, and that the first case, was the eye lost. But I have taken the greatest care in all the subsequent cases to purify the conjunctival sac, stitch the lids together, and keep the eye protected by a pad and bandage for some weeks, removing the sutures after four or five days. In the last case my colleague, Prof. McHardy, united the upper and lower eyelids about a month after the operation in consequence of the conjunctiva becoming irritated and the corneal epithelium abraded (possibly from the anæsthetic eye opening and rubbing against the pad). The eye remained closed in this way for three weeks, when the lids were separated by scissors, and the eye has since remained healthy, though still anæsthetic. A period of seven months has now elapsed since this last operation was performed.

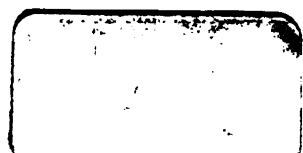
I am, Sir, yours truly,

WILLIAM ROSE.

Harley Street, W., 18th April, 1893.

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